FIRE ENGINEERING

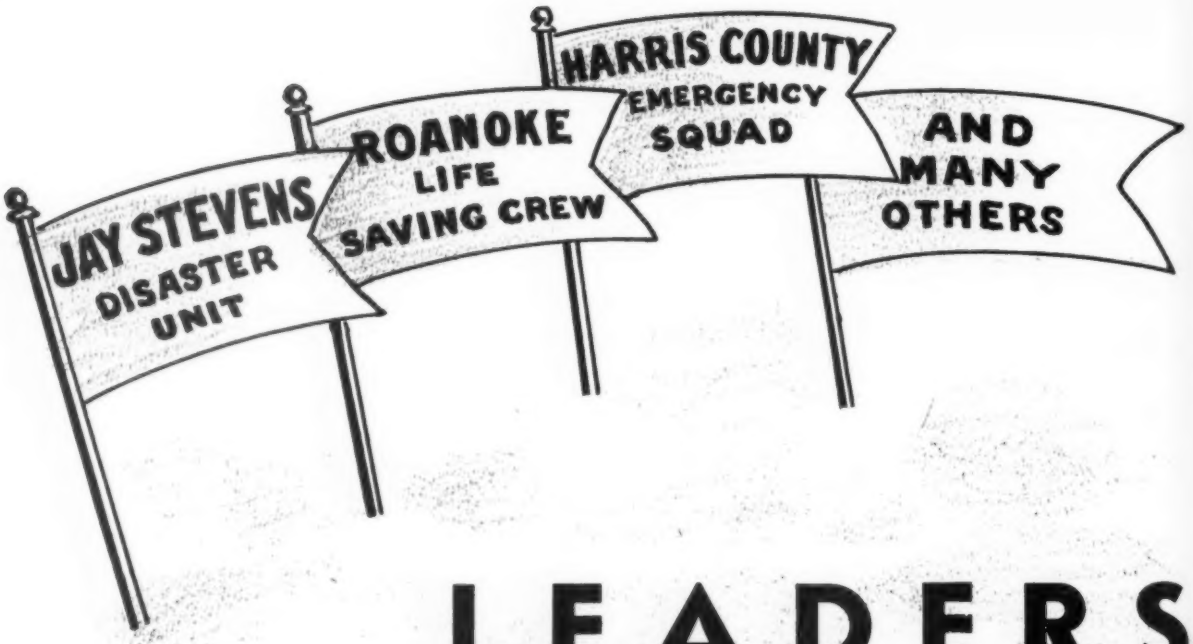
The Journal of the Fire Protection Profession Since 1877

FEBRUARY, 1946

OHIO STATE UNIVERSITY

Fire Envelops Storage Facilities at Findlay, Ohio, Refinery

A CASE - SHEPPERD - MANN PUBLICATION



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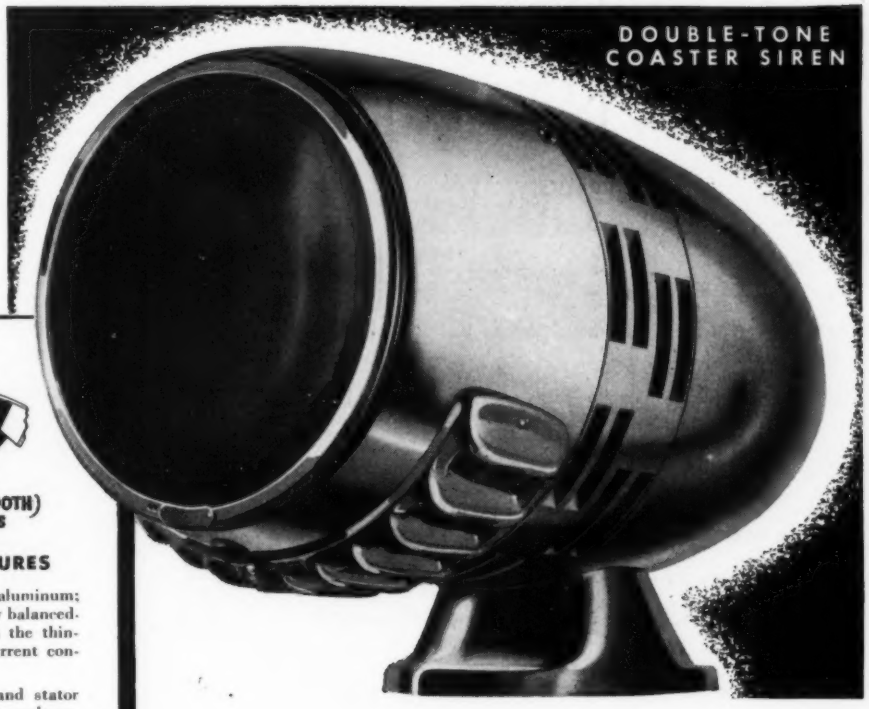

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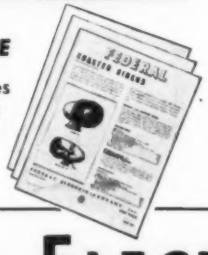

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

"Must" Reading for Municipalities

FRANK J. QUAYLE, JR., New York City's new Fire Commissioner, startled complacent citizens of his muncipality when he said that ***20 per cent of all the city's fire-fighting equipment was obsolete and should be replaced immediately.***

● In Peekskill, N. Y., a 30-year-old aerial ladder broke and four firemen narrowly escaped death, during a December fire, dramatically confirming a prediction and warning given the local Common Council by Chief David Cleveland ***two years before the accident happened!****

● New York and Peekskill aren't alone in this sad situation. As is pointed out in this month's editorial, the condition of our fire-fighting facilities is a national disgrace.

● Giving firemen shorter working hours, adding more firemen, paying them more money, is all as it should be; but asking them to risk their lives and the lives and property of their constituents by insisting that they must use worn-out, out-moded apparatus and equipment borders on the criminal.

● We suggest that every chief who has surveyed his department, and found it wanting in one respect or another, mark this month's editorial as "must" reading for his local city, town or village officials!

*See story on Page 146.

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Sewage Works Engineering*, etc. ¶Subscription price: U. S., Latin America and Canada, $2.50 a year; Foreign, $3.50; Single copies, 25c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879. ¶Contents of this issue copyrighted, 1946, by Case-Shepperd-Mann Publishing Corp. President and Advertising Director, KARL M. MANN; Vice-President and General Manager, I. HERBERT CASE; Secretary and Editorial Director, FRED SHEPPERD; Assistant Advertising Director, WALTER H. FREDRICKS; Advertising Manager, WILLIAM J. GIBSON; Circulation Manager, W. H. TOPHAM. CHICAGO OFFICE: W. S. CLEVENGER and L. M. ROCHE, 6 No. Michigan Ave., Chicago 2, Ill.; SAN FRANCISCO: CHARLES H. WOOLLEY, 605 Market Street, San Francisco 5, Calif.; LOS ANGELES: AUGUST HAURIN, 6000 Miramonte Blvd., Los Angeles 1, Calif. ¶Printed in U. S. A.

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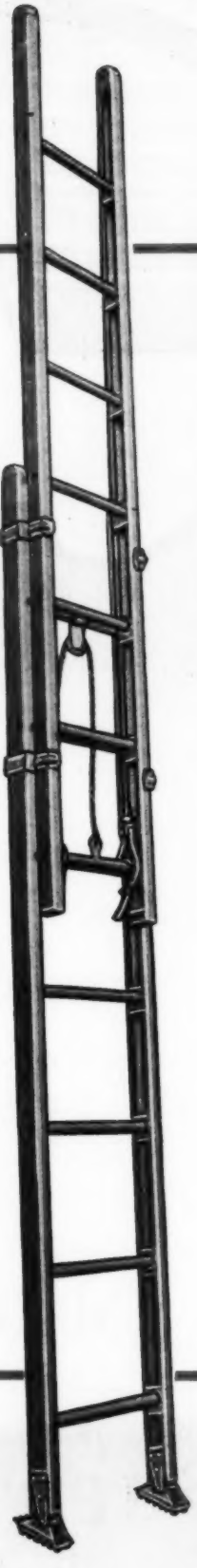
ALL ALUMINUM* FIRE LADDERS



Channel Strength is the outstanding feature of this 700 Series Duo-Safety line. Here is an all-aluminum (duralumin) ladder that has won enthusiastic acceptance for pumper use. These ladders provide easy handling, all around sturdy construction, outstanding quality, and positive safety!

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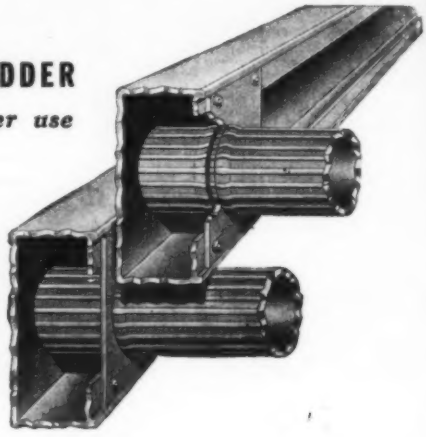
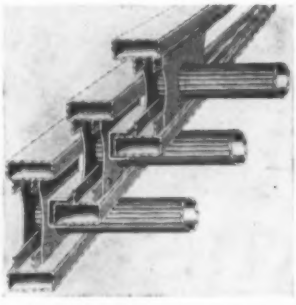
for pumper use

Built in four standard models: 2 section extension, 3 section extension, wall ladders, and roof ladders. Note cross sectional view of famous Channel Rail construction. Ladder illustration is the Duo-Safety Series 700-A, two section, Channel Rail all-aluminum ladder.





sectional view of

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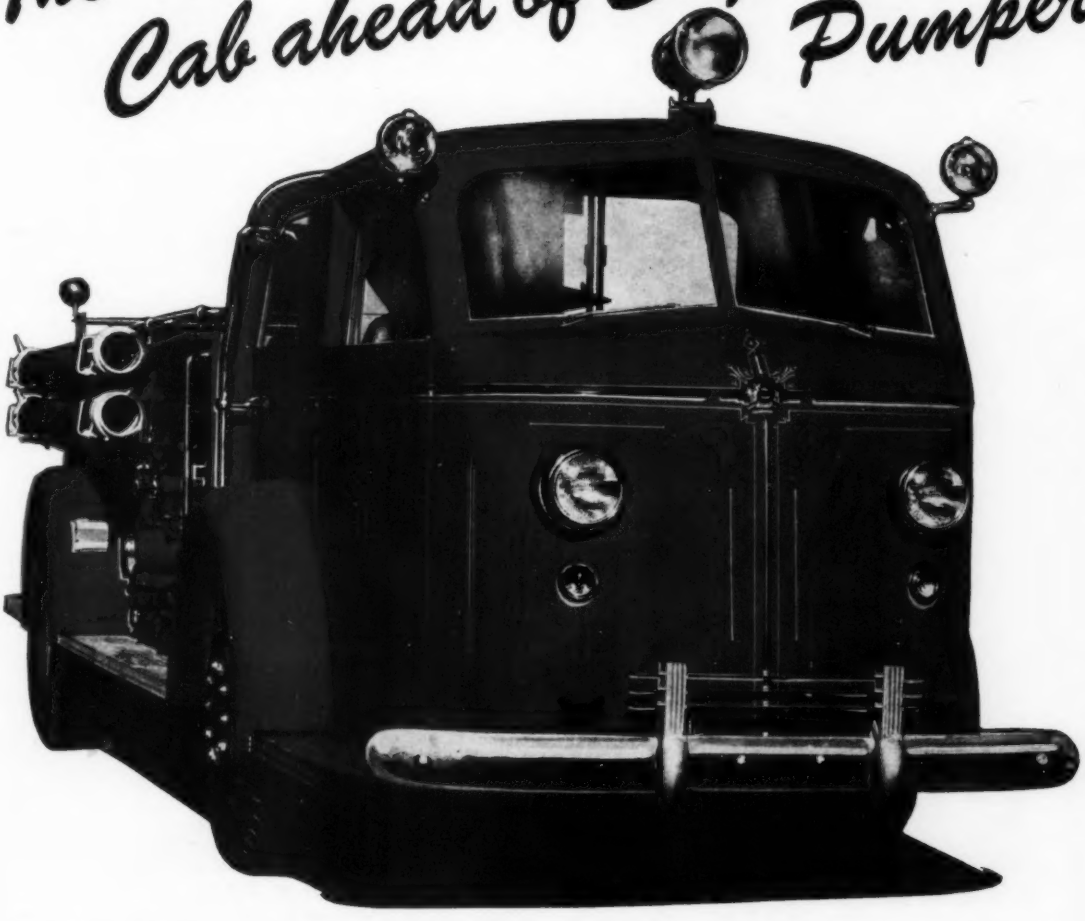

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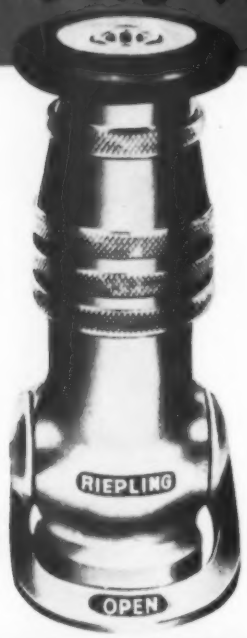

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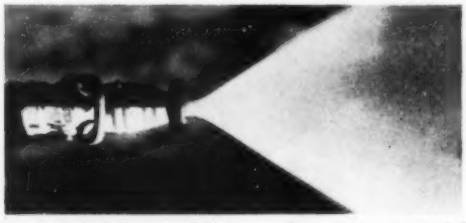

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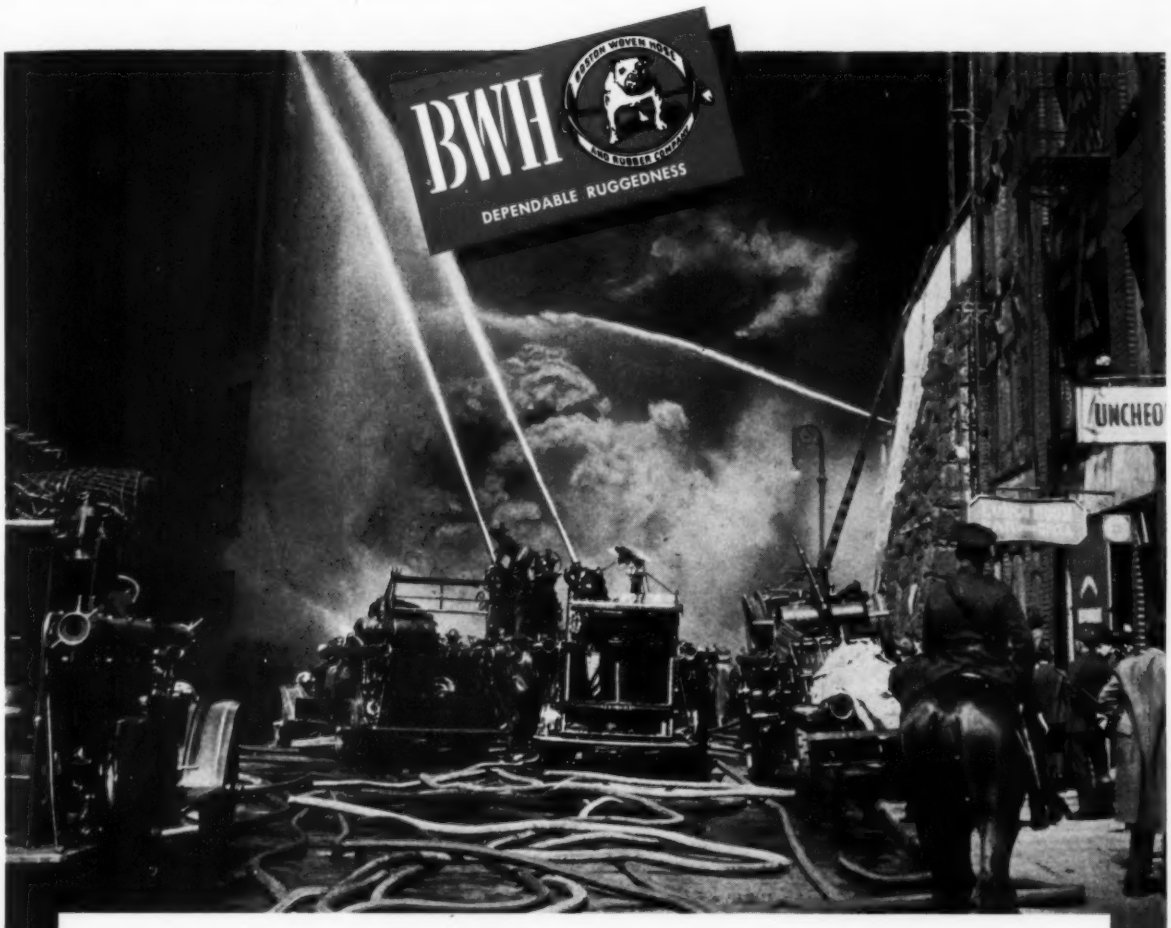

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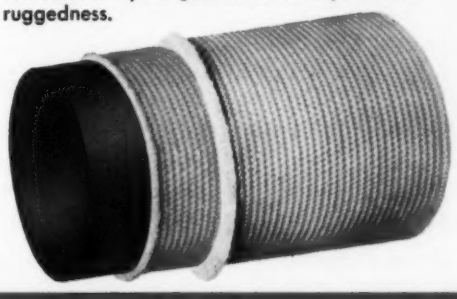

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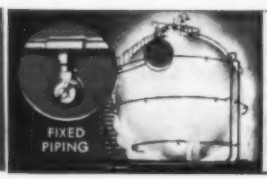

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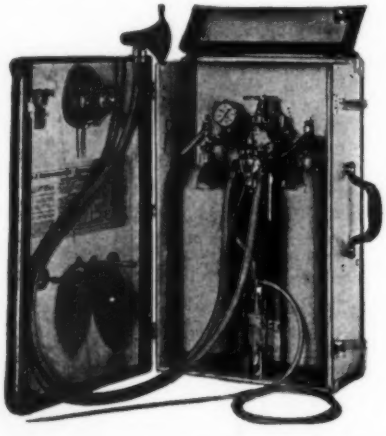

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FIRE ENGINEERING

FEBRUARY, 1946 VOL. 99. NO. 2

With the Editor

Asking the Impossible

Studies made by FIRE ENGINEERING point to a serious, if not alarming, situation in the fire service. This is the accelerating pace of depreciation of its fire fighting facilities—its apparatus and equipment.

In itself, this is grave enough but, measured against two other factors, it assumes particular significance. These are: (1) the too-general tendency of municipalities to, (a) procrastinate in the preparation of their post-war fire department rehabilitation plans and programs, (b) to delay action on the purchase of needed facilities, even where such plans and programs have been approved; and (2) the handicaps and limitations under which the nation's fire apparatus and equipment manufacturers are laboring to get into full-scale production of post-war, improved products.

Municipal officials appear to overlook the obvious fact that if and when decisions are reached to buy new apparatus and other fire fighting facilities, and orders are actually placed, of necessity considerable time must elapse before deliveries can be made.

FIRE ENGINEERING's studies emphasize the alarming state of disrepair and disuse in which the fire service, generally, finds itself after a decade of depression followed by four years of strenuous war service, during which its facilities were forced to take extraordinary punishment in its fight to prevent the nation's fire losses from reaching catastrophic proportions.

That the fire service has been able to accomplish so much, with so little, is a tribute to the ability and stamina of American fire apparatus and to the unsung heroes of the service, the maintenance forces, which, incidentally, at this writing have not been returned to anything like their prewar strength.

Right now, according to the studies, one of the country's greatest cities hasn't a single reserve pumper ready to throw in as a replacement. Many others, large and small, are in like predicament; their repair shops overloaded, their repairmen overworked, and not too well paid.

The fact is plain as a plaster-hook: the fire service has reached the critical point. Unless something is done—and that soon—there will be no checking the nation's growing fire waste.

Asking the fire service to continue to work miracles in fire protection with warworn, outmoded facilities is like asking a drowning man to turn over and dive!

Removal of Signs

The City of New Rochelle N. Y., has won a victory in the Court of Appeals in its effort to banish overhanging signs from its streets. This culminates a long and bitter legal battle, and merchants and others now will have to remove what complainants said are "dangerous eyesores."

Fire fighters, who have long been handicapped in rescue work and other fire suppression operations by this nuisance, will rejoice with New Rochelle's Fire Chief, Oscar Grab, in this action and hope that it will establish a precedent for other communities.

It's about time that forward-thinking municipalities passed similar ordinances outlawing these overhanging menaces—and we advance the suggestion that here is a worthy crusade in which progressive fire officers may well take an active part.

Fred Shepperd

Year Opens With Heavy Demands Made Upon the Fire Service

Fire Plays no Favorites; Losses Heavy in Oil, Mercantile and Industrial Properties

A STAFF SURVEY

FIRE losses, which in 1945 set a fifteen-year record of destructiveness, and incidentally affirmed the predictions of FIRE ENGINEERING, continued heavy in January, 1946, under the impact of bitter winter weather over wide areas, and continued post-war handicaps of shortage of efficient manpower and fire-fighting equipment.

Although not heaviest in losses, blasts and blazes in gasoline and oil plants and storages gave firemen of many municipalities and industries strenuous work in January. Outstanding among these petroleum and other oil installation fires and explosions were those in the Nation's Capital, Washington; in Bayonne, Elizabeth and Linden, N. J. and in Findlay, Ohio.

FATAL BLAST IN WASHINGTON

One man was killed and three others injured when the Mattingly Brothers gasoline filling station at First and Atlantic streets SE was blasted to rubble by an explosion at about 4:00 P.M., January 6.

The shock, which was felt two miles away, shattered windows in nearby dwellings, blew debris over a city block, ripped down high tension electric wires and, although not followed by fire, caused considerable loss over a wide area.

Firemen Fight Findlay Oil Fire with Large Quantities of Foam

When local supplies were exhausted, foam was rushed to Findlay from Toledo, Lima and Cleveland in effort to control threatening fire in storage tanks of National Refining Co.

Washington Firemen Cool Threatened Gas Storage Tanks

Water—Niagaras of it—and foam were used on five-alarm oil fire in Capital that threatened to spread to nearby gasoline tanks. Nearby residents were evacuated as explosions shot flames 200 feet in air.

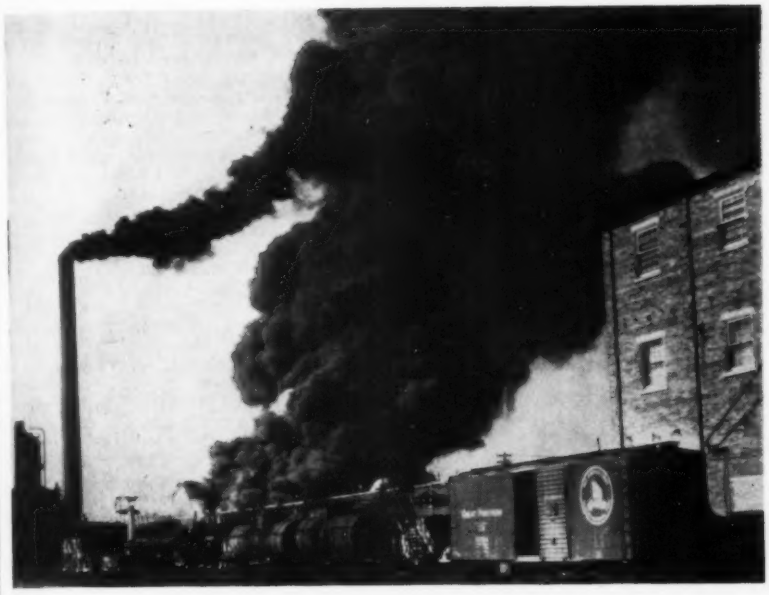
The filling station, which boasted eight gasoline pumps, with enclosed racks and oiling pits, was of the type known as the "superservice center." Under the main section was a half-basement, containing an air compressor. Firemen expressed the belief that gasoline fumes, seeping into the basement, were ignited by a spark from the air compressor.

A small truck over the oil pit, a panel truck and two automobiles in the driveway were wrecked by the explosion. Diagonally across from the station is the Atlantic Market where plate glass windows were all broken.

Bolling Field Alerted

At Bolling Field, two miles distant from the scene, officers reported the buildings shook and windows rattled, causing many to fear that the blast was on the field. Military police were rushed to the scene and aided police in handling the thousands attracted by the explosion and response of fire apparatus.

Utility workmen cut loose three high-tension wires downed by the blast, as they endangered firemen and spectators.



As Fire Advanced on the National Refinery at Findlay, Ohio
After all day and night battle plant and Finally firemen prevented threatening fire from reaching main plant of refinery. Losses were reported heavy.

Telephone linemen removed damaged telephone wires. Inspectors from the Washington Gas Co. were early on the scene but reported they were unable to discover any illuminating gas connections in the building, nor did their records show any.

The alarm to the fire department, which called equipment from all parts of the Northeast and Southeast Washington areas, was sent by an operator of the Atlantic Market who pulled a fire alarm box in front of the store. Firemen, directed by Chief Stephen Porter, who were promptly on the scene, stretched lines to extinguish any fire, and searched the wreckage for victims. To date, investigations have failed to disclose the cause of the explosion.

FATAL STANDARD OIL TANKER FIRE

The Standard Oil Co. suffered further losses on January 14 when its 2,000 ton, 523-foot tanker "Pequiot Hill" was rocked by blast, while moored at the piers of the company at Constable Hook, Bayonne, N. J. and took fire, threatening piers and installations.

One seaman died of burns and a steward was reported in critical condition.

Authorities have not disclosed the cause of the explosion, which rocked the vessel shortly after it was unloaded of its cargo of 126,000 barrels of oil. Six of the forty crew members of the ship were aboard when it took fire.

The fire on the tanker, which is reported owned by the National Bulk Carriers, Inc., New York City, was extinguished by the Standard Oil Company's private fire department with the help of the Coast Guard, which towed the burning vessel to midstream of the Kill Van Kull. The Bayonne Fire Department stood by.

COSTLY CASTOR OIL BLAZE

Nearly 3,000 gallons of castor oil were destroyed in a fire, January 15, which, whipped by a thirty-mile-an-hour wind, destroyed the main production building of the Apex Chemical Company, South First street, a block from Newark Bay, in Elizabeth, N. J., with an estimated loss of $500,000.

Every available piece of fire apparatus in the city was called to the scene, as well as a reported civilian-owned fireboat operated by John Van Pelt. For three hours firemen played heavy streams on the fire, which began at 5:32 P.M., originating, it is said, from unknown causes in the second floor of the four-story wooden building.

Exploding chemicals sent geysers of flame 200 feet in the air and the strong odor of burning castor oil permeated the nearby area.

Standford H. Hermann, vice-president of the firm, who estimated the loss, stated that the castor oil was not for medicinal purposes, but was for industrial uses.

OIL TANKS BURN IN WASHINGTON

Four days after the filling station blow-up, Washington firemen waged a brief but hectic struggle to confine and extinguish an oil fire which caused considerable damage to the plant of the Standard Oil Co. at 23 I street, SE.

Firemen of fifteen companies, under Chief Stephen Porter, responding on successive alarms, prevented the spread of the flames to the storage of an estimated half million gallons of gasoline.

The first alarm for the fire—the cause of which has not been determined—was transmitted by a night watchman at the plant, about 2:25 A.M. on the morning of the 10th.

First firemen on the scene said that when they arrived gasoline was flowing in the streets and that the burning gasoline at one place prevented their use of a conveniently located hydrant.

The fire originated in that part of the company yard where trucks are loaded from storage tanks, and spread to an adjoining three-story brick building. It is reported that several explosions occurred early in the fire and flames shot several hundred feet into the air.

Most of the damage centered in the bulk plant building, which was wrecked. This structure was formerly a brick stable, converted into a warehouse. Ac-

Fatal Findlay, Ohio, Refinery Fire
Fire and explosions in asphalt and petroleum storage tanks at the National Refining Company plant in Findlay, Ohio, killed two, seriously injured several others and threatened destruction of the vast refinery itself.

cording to firemen, the explosions and source of the high flames came from a number of oil drums stored behind the burning building. An oil truck was also damaged.

FATAL FINDLAY OIL FIRE

Three men are reported to have died, and a number were injured, some severely burned, in a raging fire punctuated by explosions, in tanks of asphalt and oil at the National Refining Company, Findlay, Ohio, on January 16.

At this writing it is not determined whether an explosion preceded the fire or the reverse. It is known, however, that at least eleven tanks were involved, some reported to have contained gasoline, others petroleum and asphalt.

The explosions, starting at 9:30 A.M. shook houses throughout Findlay's southwest section. Six large tanks were reported to have let go before noon, and at 1:00 P.M. a seventh tank was burning and the company's superintendent reported that the company's main plant and approximately fifty other tanks were in danger.

Specially trained Refining Company firemen, aided by the entire Findlay Fire Department, cleared the tank area of workers but failed to reach one man who was reported trapped behind the flames it is said.

Foam in large quantities was liberally used in fighting the fire and when supplies at the plant and in Findlay ran low, additional quantities were dispatched from the Standard Oil and other Refineries in the area and from Toledo and Lima. A foam truck was reported sent to the scene by the Cleveland Fire Department.

The refinery, recently sold to the Midwest Refineries, Inc., Grand Rapids, Mich., has been under Navy control since October 5, following a strike of workers. The refinery itself was considered safe inasmuch as the nearest tank was 400 yards distant; however, a tank-like structure used for initial stages of petroleum "cracking" was damaged extensively.

The tanks involved are said to have had capacities of from 1,000 to 5,000 barrels.

The fight to control the flames was waged throughout the day and into the night before all danger to the balance of the tanks and the main plant was considered past.

Oklahoma City F. D. Averts Disaster

What might have developed into a disaster of serious proportions in Oklahoma City, Okla., was averted January 18 by the prompt and efficient measures taken by the fire department under Chief G. R. McAlpine.

At about 2:00 P. M. on that date, the department was notified of a break in an oil line in a highly congested, residential area at N. E. Fifth street and Harrison avenue, at the intersection of Oklahoma Route One.

Upon arrival at the scene, fire department officials found that a high pressure oil main had ruptured 150 feet south of the intersection and live crude oil was pouring from the pipe, following the grade and running along the gutters north on Oklahoma avenue to the Harrison street intersection. At that point the oil was coursing southwest along Harrison avenue, a distance of about 800 feet, where it was finding its way into storm sewers, catch basins and all street openings.

Parked along Oklahoma and Harrison avenues were about fifty automobiles, under which the crude oil was flowing in a stream of about three feet in width by three inches in depth. This presented a precarious situation as the oil in question burns with the intensity of gasoline. Obviously, its immediate, safe removal was paramount.

Four engine companies were summoned by radio and four hose lines put to work, flushing the oil into catch basins and storm sewers. Four police cars were also called, and these operated under the directions of the fire department. The entire area was quickly blocked off and no one allowed therein. Police and firemen maintained a close watch to see that all fires in business and residential premises were extinguished and all persons kept at a distance.

According to Chief McAlpine's report to FIRE ENGINEERING, a lighted match or spark of any kind would have ignited the flowing oil, with serious results.

Quick work by firemen in shutting off the flow of oil and immediately flushing the oil into the sewer, while evacuating persons from the affected area, removed the greatest danger. There was, of course, still the hazard of live crude and its vapors in the sewer system and this, too, had to be dealt with. This was done by flowing large quantities of water through the sewers, until all the oil was safely washed away. Flushing operations, incidentally, were continued until the hazardous gases were also removed.

This situation, Chief McAlpine reports, is not new in oil fields, as these breaks occur frequently and in some cases, where the area is congested and the flammables become ignited, there has been considerable loss of property, and even casualties to personnel.

Fire Fighters Are Shown Applying Foam to the Burning Oil Tanks at the Findlay, Ohio, Oil Plant Fire

Much N. Y. F. D. Equipment Obsolete

Speaking before the Board of Directors of the International Association of Fire Chiefs, January 23rd, New York City's new Fire Commissioner, Frank J. Quayle, Jr., made known that over twenty per cent of the city's fire-fighting equipment is classed as obsolete.

On the strength of this, and other needs developed by surveys of the department, the Commissioner and the new Acting Fire Chief Frank Murphy, have appealed for a $2,400,000 increase in funds for the department for 1946. This will permit the addition of 1501 firemen to reestablish the three-platoon system throughout the department, and the addition of much needed apparatus and equipment.

New Haven Has Two Large Fires

A STAFF REPORT

THE first of New Haven's two five-alarm fires, and the most threatening, occurred January 11 and caused in excess of $300,000 damage to two old structures. It raged out of control for almost two hours, completely disrupting downtown traffic.

The first alarm was received at Fire Headquarters at 4:38 P. M. from Box 233, Orange and Crown streets, and when firemen of Engine Company 12, located only a few doors away, rolled from their quarters flames were already shooting from the third floor windows of the four-story Crown Wall Paper Company, 93-99 Crown street.

This building, like the other involved, was over sixty years old and typical of the combustible construction of that period. It had eight inch brick walls, wood floors and beams and was attached to another old four-story brick structure on the east side and to a four-story brick hotel on the west side (see diagram). There was no space between buildings, and supporting walls were tied in with each other.

The fire is said to have originated in a store-room occupied by the United Wallpaper Company in the property at 93 Crown street. From here it spread rapidly through an open fire door to the adjacent used-furniture department of the Chamberlain Furniture Company and from there, communicated through unprotected openings to the company's main furniture store. Witness told fire officials there was a muffled explosion just before the fire, at about 4:35 P. M. Spreading with almost incredible swiftness, the fire mushroomed through the third floor of the wallpaper warehouse, charging the building with heavy smoke. It advanced up a stairway to the fourth floor furniture packing room used by the Chamberlain Company, which was joined to the Chamberlain Building proper by a four-foot wide door. Employees of the furniture company had been moving furniture between the buildings all afternoon via this door, which gave the fire its free passage. An employe, discovering the fire at about 4:45 P. M., rushed through the building to give the alarm and then returned with another helper and attempted to close the metal door which had been wedged to allow free passageway. They were unable to reach the door, and retreated. However, in leaving, they closed all other fire-doors between the burning structure and Chamberlain Building. This is credited by Chief Heinz with preventing further spread of the flames through the furniture store.

Chamberlain Furniture Fire at New Haven

Fire is shown breaking through fifth floor area, with ladder pipe working from a 75-foot aerial. Another ladder pipe is being placed into position in front of building. Shortly after, a deck gun was also placed aside of this ladder and these streams stopped the fire in this building. In back of the ladder operating was the 85-foot aerial that had the 500-gallon fog head attached. The building in which the fire originated is located back of the aerial ladder with the ladder pipe working.

Bradley and Williams Street Loft Building Fire at New Haven

Department was in operation about five minutes after arriving, with ladder pipe from 65-foot aerial working; also two heavy streams from deck guns. Portable turret gun can be seen in street with one line already hooked up. This building was 4-5 story brick, no partition walls inside of floor areas. Fire started in cellar, came up through elevator shafts and entire building was involved. Delayed alarm was responsible for rapid spread.

According to a special report to FIRE ENGINEERING from the New Haven Fire Department, there is some evidence that employees attempted to fight the fire in the initial stages, using hand extinguishers, and that this may have contributed to its spread. Chief Heinz stated that the fire was coming through the rear third and fourth floors when the first-alarm companies arrived.

Fire Department Operations

Chief Heinz, responding on the second alarm, noticed a man in a window on the sixth floor of the Chamberlain Building. Heavy smoke was emitting from this window, to which the man

evidently had been driven in an effort to escape—yet the opening was fully 200 feet from the fire. The smoke condition indicated to the Chief the presence of openings or connections between the buildings through which the smoke was finding its way.

Members of Labor Company No. 1, using their aerial, made a rescue getting the man down uninjured despite considerable structural obstacles that interfered with ladder operations.

The speed with which additional alarms were transmitted indicates the department's quick recognition of the seriousness of the fire. The first alarm at 4:38 P. M. brought engines 12, 2 and 7, ladders 1 and 2 with Deputy Chief William Killoy and Battalion Chief John LeFebroe. Chief Killoy transmitted the second alarm at 4:40, bringing Chief Heinz, who ordered a third alarm at 4:47, a fourth at 4:50 and a fifth at 5:03 P. M. With the sounding of the fifth alarm only engines 6, 15 and 16 and one ladder company were left to cover the city. Before 6:00 P. M. Chief Heinz ordered in off-shift men to man reserve equipment at the station of Engine 17.

The fire was fought from every vantage point with the main attack on the Crown street side. Lines were taken to the roof of the Blair and Brodrib Building at Orange and Center streets to reach the flames from the rear. Three ladder-pipes on metal ladders were operated as water towers while two other aerials were used to gain access to roofs and upper floors. All-told, two 85-foot, one 75-foot and three 65-foot aerial ladders were in operation. One of the ladders effectively used as a tower was that of Truck No. 4, only received by the department the preceding Wednesday.

Six heavy streams from turret-pipes and six hand lines delivered tons of water in the efforts to confine the fire and protect exposures. Firemen also cleared customers and employees from ten establishments, including the Chamberlain Furniture store. When the fire broke through the roof, up-drafts carried burning brands and sparks many blocks but the department was able to control this hazard using, in part, a 500 G.P.M. fog nozzle mounted on a portable turret gun which was operated from an adjoining roof under the direction of Battalion Chief Collins.

Fire Door that Kept Fire from Going into Adjoining Building

This view was taken on the fifth floor of the fireproof building adjoining the corner building. A similar door was located on the fourth floor. Firemen got hand lines into the fourth and fifth floor areas, and cooled off these doors. The radiated heat from the metal doors had already set fire to material just inside of the door. This building was loaded with flammable merchandise, chairs, tables, excelsior, boxes, etc., and had the fire got inside of the building, it would have possibly taken the entire block.

This fire provided the first full-scale opportunity for Chief Heinz and his force to utilize large, type fog heads on a Class A fire, and the Chief was quick to make fullest use of them. According to his report to FIRE ENGINEERING, the department used two 500-G.P.M. heads in conjunction with straight, heavy streams from deck guns.

One of these nozzles was attached to a ladder-pipe on one of the metal aerial trucks and operated into a window on the fifth floor of the building adjoining that involved in the main fire. This was done in an effort to stop the fire at this point. The other fog nozzle was attached to the turret-gun and operated on the roof as described, in the rear of the fire area, for the purpose of wetting down large embers and killing the heat radiation. This fog head did a good job in this respect. The other large fog head would have accomplished its purpose, Chief Heinz believes, had it not been that immediately inside of the fifth floor window into which it was operated, there was a heavy stock of materials extending from floor to ceiling, which obstructed the water from penetrating deeper into this floor level. It was found that the door, which had been left open and through which the fire traveled from one building to another, was on this floor, about thirty feet inside of the window into which the water fog was directed.

Under these circumstances, Chief Heinz reports, it was impossible to determine the value of the heavy volume fog. A solid stream was also played into this area from an adjoining window without any appreciable results.

The Top Floor Area of the Chamberlain Building where the Fire Traveled from the Main Building

It was at this spot that the Fire Department hoped to cut off the fire, but this wall opening made it impossible to stop the fire. Furthermore, stacks of materials just inside of the windows, through which the ladder pipes were operating, obstructed the water from reaching the center floor area.

Besides a deck pipe, which was also operated into the fifth floor window, two additional deck guns were used in the frontal attack, one directed against the east wall, not far distant from the fog head on the opposite side of the wall.

For a while it was believed that the department would be able to hold the fire in the one building where it originated, but the forementioned open fire door, which furthered the spread of the fire, and the stacked materials which prevented penetration of streams and fog, permitted the fire to extend throughout the top-floor area.

Firemen continued to overhaul and guard against re-kindle for sixteen hours after the discovery of the fire.

New Haven's Second 5-Alarm Fire

Following within a week after the 5-alarm fire which did heavy damage to the Chamberlain Furniture Co. and United Wall Paper Co. and only a few hours after the department had fought a two-alarm blaze which destroyed the basement storeroom of a confectionary store, almost the entire New Have Fire Department was called upon to control a raging fire in a factory loft and warehouse on January 17 which threatened destruction of a wide area.

The fire caused upwards of $150,000 loss to the remodeled four-story factory building located at the corner of Bradley and William streets, occupied by nearly a dozen different companies, including paper and box firms, an elevator concern, appliance, sportswear and upholstery companies, a laboratory, and miscellaneous other occupancies. The structure was of brick and wood construction, one section having old-style dormer windows.

The fire, the origin of which is as yet undetermined, was discovered almost simultaneously by an employee of the C. J. Bates and Son Company, one of the occupants of the building, and by a garageman working across the street. The latter, upon seeing heavy smoke issuing from the basement at once telephoned fire alarm headquarters. By the time firemen arrived all 250 occupants had reached the street.

Alarms in Quick Succession

A still alarm was followed almost immediately by a headquarters-sounded box alarm, to which Engine Companies 2, 4 and 12 and Ladder 1 with Deputy Chief William Killoy and Battalion Chief George Lynch responded.

At 8:34, the second alarm called Chief Paul P. Heinz, with Engine Companies 8 and 7, Ladder 6 and the central station's auxiliary turret truck. At 8:45, simultaneous third and fourth alarms brought Engine Companies 10, 14, 17 and 1 and Ladder Companies 2 and 3, and at 8:56, the fifth alarm summoned Engines 6 and 11 and Ladder 4 together with all Deputy and Battalion Chiefs in the department.

After the fifth alarm, Chief Heinz ordered all off-duty firemen to man reserve equipment in emptied fire stations against possible other fire emergency calls. The five-alarm blaze was the first serious fire to be fought under the department's new traveling squad system, which went into effect the previous day, to enable the department to quickly dispatch personnel to any emergency.

The fire, which apparently started in the basement, had reached and involved the roof area via the elevator shaft before the first-due companies had arrived. It mushroomed across the top-floor loft spaces of the old building and worked down until almost all of the interior was involved.

The department, using 25 lines of hose at the height of the fire, fought the blaze from the street, from deck and ladder pipes, and near-by roof tops.

As the fire swept the structure, the strong wind carried heavy smoke clouds and large burning embers over the entire neighborhood, to seriously threaten other properties in the area. Warnings were given residents of flat-topped tenements for blocks around and residents of several eight-family tenements on Bradley Place were evacuated at fire department orders early in the battle. Roofs of these and other structures were patrolled to watch for fires.

Separate fires were reported on roofs at 20 Bradley Place; 1 Lyon street and at Pearlmutter's Clothing Store at Grand avenue and Bardley street. Numerous other small fires were extinguished by alert roof-watchers.

The below-freezing temperature and high winds froze the spray from streams on apparatus, equipment and fire-fighters, making footing precarious.

Radio Calls Firemen to 2-Alarm Fire

The two-alarm fire the night previous and which damaged the cellar of a confectionary store, was discovered by Patrolman James Franco, who radioed an alarm at 9:53. This was followed by a box alarm at 9:54, bringing Engine Companies 4 and 10 and Ladder Company 3 to the scene. A second alarm at 10:03 P.M. was answered by Engine Companies 12 and 17, Ladder Company 6 and Chief Paul Heinz.

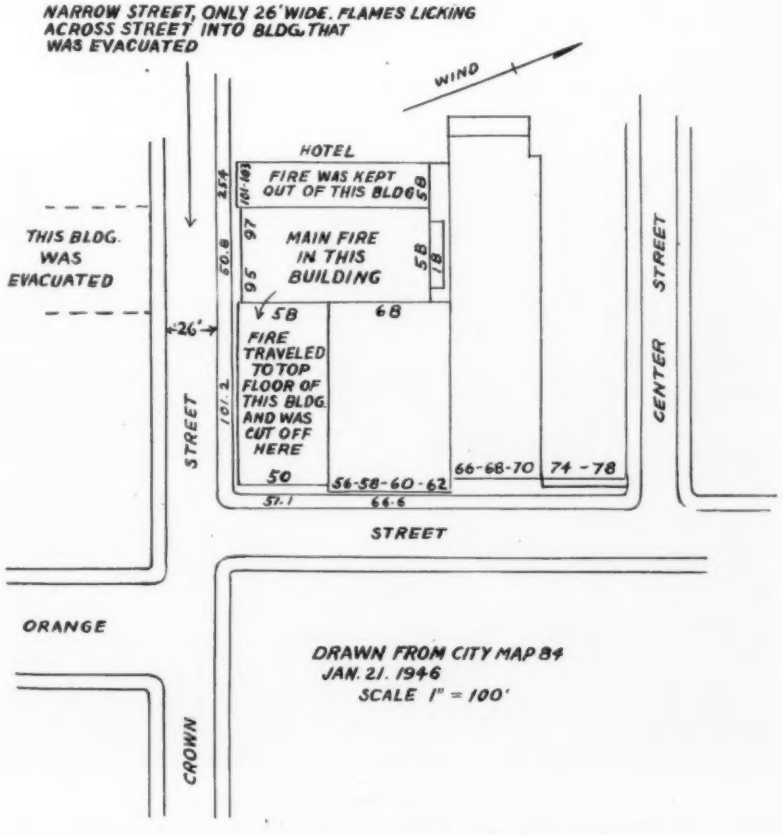
Families on the two upper floors of the building were evacuated by firemen who prevented extension of the fire above the ground floor level.

Just to increase the fire-fighters' troubles, at 3:53 A.M., the morning of the five-alarm fire, a box alarm called Engines 3, 6 and 12 and Ladder 4 under Battalion Chief Robert Gray to a one-story brick building on Whalley avenue where a small fire was quickly extinguished.

Philadelphia Ponders 3-Platoon

Philadelphia would have to hire 1,019 more men at an additional cost of $2,267,275 a year in order to install a three-platoon system and a 48-hour week in the fire department, Chief Engineer William F. Cowden reported before a meeting of City Council's Committee on Public Safety.

Councilman Clarence K. Crossan, committee chairman, asked Cowden what the cost would be to install a three-platoon system on the basis of an increase in personnel of 583, and give every man a $400 raise. The chief said it would run about $2,385,000.



Map of Area Involved by the Chamberlain Furniture Company Fire

Taxpayer Fires Present Problems to Nation's Fire Service

Innocent Looking Structures May Prove Conflagration Breeders

By WILLIAM TAUBERT,
Deputy Chief, 2nd Div., New York Fire Department*

TAXPAYER fires are common to most counties the nation over and, coincidently, they are a headache to the fire service, generally. That is because the ubiquitous "taxpayer" is so universally found in our American municipalities, big and little.

The "taxpayer" is distinctly an American "institution". Designed primarily to overcome the burden of taxes on property, they are almost without exception cheaply designed and built, to fill what is believed by the owner and builder to be only a temporary need. They are "stopgap" structures to stand against the day when more permanent and suitable building will be in order. But, unfortunately, many of them take on the status of permanency for one reason or another and remain, year after year, a continued threat to the fire-fighter.

The greater number of these structures are of one story height. Of these, there are three general types: (1) those erected on interior lots and facing only on one street, running from 2,500 to 7,500 square feet in area; (2) those facing on two streets with areas running from 7,500 to 10,000 square feet, and (3), those facing on three streets, covering an area of 15,000 square feet and perhaps over.

To look at most of these buildings, the average person—including firemen—would hardly consider them much of a fire hazard, or the extinguishment of fire in the "taxpayers" much of a problem. But the facts prove otherwise. Probably no one type of hazard has given the fire officer and fire service so much trouble as this. And in order to properly understand why, and where, it is well to review, briefly, the design and construction of these "taxpayers."

For the most part, construction is largely of wood, with some metal and perhaps marble or masonry facing, not intended as a fire-retardant measure, but purely to give the structure a "front." Partitions are for the most part flammable, and built to house separate occupancies and the entire building area is usually divided into just as many spaces as the traffic will bear. Partitions are generally wood studs and wood or metal lath and plaster. Some cities, where maximum areas previously given are encountered, require by local ordinance that separating partitions be of fire-retarding, fire-resisting or fire-proof material, of a thickness to compensate for the excessive areas and the use to which the structure is put.

An important point is the fact that some of these partitions do not run through and above the roof as approved parapets should. Herein lies the danger, because fire, once it gets a hold in the area between the store ceilings and the roof structure, may spread undetected and the whole underside of the roof may be involved, threatening the entire building. Failure to carry fire-retardant partitions to and even above the roof area, providing fire-stops between each "taxpayer" store and effectively separating the store areas, has been the chief cause for the costly spread of fires in "taxpayers"—and the high losses.

Another important factor of design and construction is the tendency to have the entire basement area in such buildings open to a common occupancy or, if the cellar area is divided, the partitions or separations are of the most makeshift kind: slatted wood, wallboard, or other material offering little or no protection against the spread of fire.

Accentuating the hazard is the fact that the furnace room may be located and constructed with little or no thought to the fire hazards inherent to heating systems, and because also it is a common practice of "taxpayer" tenants to burn waste materials either in the furnace or a rubbish burner in the basement.

Interior Exposures

Interior exposures are common. They run from inside stairways to dumbwaiters, chutes and other openings with little or no attempt to protect them from becoming channels for the spread of fire to another area. Older structures often contain light-shafts runnnig from cellar to roof, or glassed floor sections are present to permit natural light from a skylight in the roof to find its way to the basement.

In newer structures, it is not uncommon to find basements carried out under the sidewalk. These may be sealed vaults, with solid sidewalks above or they may have sidewalk glass deadlights. Further, there may be cellar openings in the walk, covered by metal doors. As we shall see, it is of the utmost importance that fire officers know the layout of these basements, and the location of partitions, vaults, and entrances and other openings.

Just a word about ceilings. Usually they are from 12 to 20 feet in height, with heights above 12 feet penetrating

Taxpayers Help Breed Conflagrations in Many Towns
Here, fire, originating in taxpayer-type mercantile structures in this Tennessee town "went to town" and burned most of its business section.

*Portions of this paper were presented as addresses at meetings of the Fire Chiefs Emergency Plan, Westchester County and the Fire Chiefs' Council of Nassau County, N. Y.

into the hanging ceiling or concealed space beyond. In some old types, ceilings are wood lath and plaster, but it is the more modern practice to use metal, thus adding to the headaches of the fire-fighter.

Occupancies

Occupants of "taxpayers", with rare exceptions, are all mercantile. During the war, in New York and some other cities some "taxpayers" were given over to industrial and factory operations. The most universally prevalent occupancy are the "Five and Dimes" and chain stores.

Even under most favorable conditions these types of hazards are a headache to the fire service. We get such fires almost every week in New York City; in fact, in the past few years we've lost two firemen by suffocation and drowning, and many more injured, in battling fires in these occupancies.

Here's what makes fires in such occupancies so serious:—

Large, open areas.

Large storages of stock; much of it cheap, flimsy, and highly flammable.

Both basement and store occupied—often loaded to the limit with merchandise.

Store fixtures and furnishings usually combustible, counters loaded on top and below, and interior counter shelves hard to reach.

Aisles, passageways and areaways too narrow, passageways often ending in "blind spaces", difficult for firemen to operate in.

Personnel, during store hours, constitutes a life hazard. During peak shopping hours, stores may be jammed. Average *store* personnel may not have the highest *I.Q.* and may be easily panicked. Employes untrained in first-aid fire-fighting.

Housekeeping conditions good, bad or indifferent—generally the latter. Carelessness is common.

Smoking permitted, except possibly in larger stores, during holiday periods (and these NO SMOKING rules not too well enforced).

Lack of cooperation between owner and occupant.

Tendency to overload lighting circuits (home-made wiring alterations).

Limited first-aid fire fighting equipment.

No supervisory watchman's service except in largest stores.

Lack of sprinkler protection, particularly in basements.

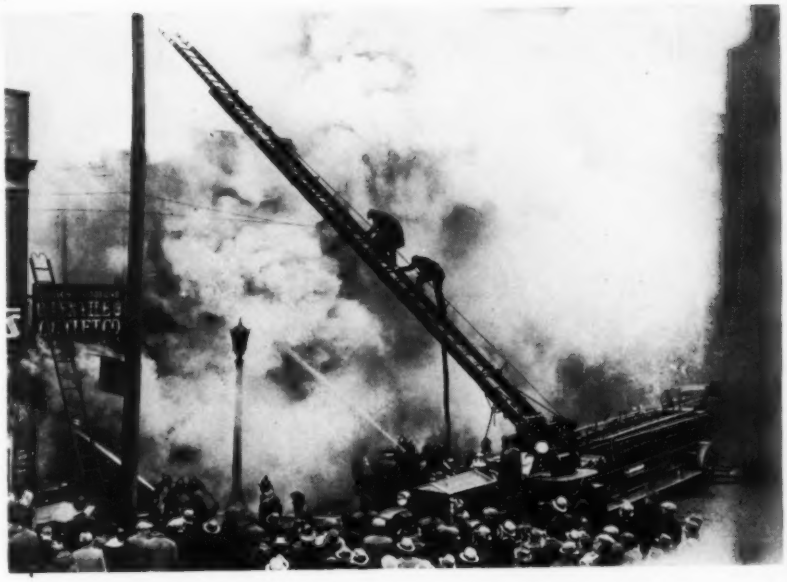
Lack of adequate means of communicating with fire departments (store personnel uneducated in procedure for calling firemen).

Store demonstrations often entail use of electrical or other powered equipment or merchandise which can start fires.

Some stores have air conditioning and refrigerating systems.

Location

"Taxpayers" know no particular location in a community. They sprout up in the busy, high-hazard districts as well as in the suburban areas. They are usually located in the busiest sections of a city, here they are a potential threat to adjoining property. The factor of traffic is another handicap to fire-fighting operations.



Smoky Taxpayer Fires May Draw Large Crowds

Taxpayers are generally located where pedestrian and vehicular traffic are heaviest. Here fire fighting operations are being hampered by the curious.

Fire Fighting Operations

There is no simple rule or system of operation for combatting fires in "taxpayers". Even among Chiefs who are so situated that they get plenty of work in this field, you will find differences in technique and strategy. Not everyone will agree upon either the steps to be taken, or the relative importance of the actions. After all, there may not be a great difference in "taxpayers", and in "taxpayer" fires, but many factors, such as the kind, type and amount of the fire fighting equipment available to the chief fire officer influence fire fighting operations and it would be foolish for me to tell the chief of one city or town that he should fight taxpayer fires in *his* community in a *certain* way just because *I fight 'em*.

On the other hand, no one should get the idea that large city firemen have any monopoly on fighting "taxpayer", or any other kind of, fires. Many a large metropolitan fire department has been known to bungle what looked like the *simplest* of taxpayer fires until a general alarm assignment was needed. We can *all* make mistakes and my sole purpose here is to set down some of the more important operational details for fighting this type of fire so that somewhere, sometime, somehow a conscientious fire officer may escape errors that have cost others so much.

Basically, the problems in fighting the "taxpayer" fire are little different from handling any other mercantile fire. In fighting the fire in such premises (the "taxpayer" structure) as in attacking *any other* blaze, the first consideration is "size-up". And the first question the office in command must consider is the *life hazard*. This is particularly true where the "taxpayer" houses a large chain store or "Five and Dime".

Fortunately, most serious fires in such occupancies occur *after* business hours, but even here there may be exposures, such as theatres or large retail establishments and multiple dwellings, where smoke, if not fire itself, may cause panic. Thus it behooves the commanding officer to consider all those elements of life hazards, as well as property hazards, in his initial "size up".

If the fire occurs during the period the premises are occupied, the removal of personnel, and possibly the evacuation of exposed property, may handicap initial efforts to get to the seat of the fire, and to head it off. Even in the large municipal department, it is sometimes a problem for the chief officers to allocate and divide their forces so that some will properly attend to fire-fighting and others will look after the personnel—prevent panic, make rescues and so on. The problem of advancing hose lines and ventilating the structure, while quickly and safely removing customers and store personnel from the building and perhaps protecting persons from exposures, is a complicated and serious one. In this connection, in the initial attack upon any such fire during business hours, it must be remembered that streams from water-lines often have aided in saving lives by holding a fire in check through forming a water curtain, or pinning a fire to a certain area, until all endangered persons have been removed to safety. Concurrently, many structures have been ruined completely through the fire getting out of hand because firemen devoted all their initial energies and resources to saving life.

Now, in connection with "size up": if the chief officer of a department, who may be called upon to fight a fire in a "taxpayer," whatever the time of day, has a full knowledge of the risk, the building and contents involved, the exposures, the fire-fighting resources at his command in initial, and later alarms, he has one strike on the fire. As a matter of fact, it should be the responsibility of every company officer as well as chief, to be familiar with such hazards in his area.

My own studies suggest that one of the common errors in fighting the "taxpayer fire" is failure to summon addi-

Two-Story Taxpayer Fire in Washington Heights Section of New York

This flatiron taxpayer was considered quite modern in its day, but twenty fire companies were unable to contain the fire which gutted almost every occupancy.

tional fire forces. This may be either intentional, or unintentional.

The fire may appear almost insignificant when you pull up, but don't be misled. Make that "size up" as quickly and thoroughly as possible, and pay particular attention to the attic or hanging ceiling and the basement. And get somebody around to the rear, quickly, too! Remember there are six sides to every fire: the front and rear, the sides and the top and bottom.

Here, at the risk of repeating an old axiom and one which modern mutual aid organizations have made mean something, let we point out that—

"Any officer can find plenty of reasons for calling for help that was not needed—but nobody can give a good excuse for not calling for help when it was needed."

Quick Ventilation Imperative

If the building is charged with smoke, as may be the case where the fire occurs after store hours, early and proper ventilation is imperative. Normally, the point to ventilate is over the fire, removing ventilators or skylights or bulkhead doors, or even opening the roof, if no such other openings can be made, to permit the gases and smoke to escape, and to reduce the tendency of the fire to mushroom in the concealed spaces in cock-loft above hanging ceiling. This will also lessen the possibility of "backdraft" and safeguard hosemen and others ready to advance lines. It further tends to reveal the location and extent of the fire itself.

If the fire is centered in the basement, openings should be made in sidewalk entranceways and shafts, and wherever smoke and gases may be vented. Sidewalk deadlights, if present, may have to be broken—or an entire section of walk removed. Store fronts may be broken or pierced under the show windows, if display windows are elevated above ground level, to draw off the smoke and, if construction permits, bent cellar pipes can be operated through these openings. Rear entranceways, and even windows may and should be opened up as occasion requires. It is better to try all these avenues of ventilation before breaking the more costly front show windows but even these must go—and without delay—if it is necessary to rid the structure of gases and smoke to enable extinguishing operations to be carried on within the store.

Even with the basement fire, men should be sent quickly to the roof because it is quite probable that the fire will have extended up through the studding of partitions into the space between roof and ceiling. If such is the case, quick action in opening up not only over the fire store, but on either side of it, and getting hose lines into play is imperative.

Where a roof is cut for ventilation care must be taken to push a hook down through the opening to open up the store ceiling. If the skylight is removed, push a hook down through the opening to make certain there is not an additional flat skylight present beneath the roof skylight. These are often installed in cold weather to save heat and prevent drafts. Break out such skylights.

In removing skylights, caution should be used by firemen performing this operation, not to bend over the skylight but rather to turn off to one side with their backs to the wind, so as not to be caught by the sudden burst of heat or flame which may be pent up right below the skylight. At one operation of this kind some years ago, a man was so badly burned that he was maimed for life. Plaster hooks, or a short roof ladder with hooks open, can be used to remove a scuttle cover, or skylight with safety to the operators.

Stretching In

At a fire, the first officer in command to arrive should have a working knowledge of the structure. This will help him if the place is charged with smoke and there is no outward indication of what is burning or where the heart of the fire is located. It is our practice—or mine at least—where a heavy smoke condition exists, to stretch a 2½-inch line with a 1⅛- or 1½-inch controlling nozzle attached to the point where forcible entry into the premises is to be made, assuming, of course, that the fire has taken place after business hours. No entry should be made into smoke-charred premises from the street level until roof (or adequate rear) ventilation has taken place to permit the release of pent-up smoke and heated gases, thereby guarding against their ignition by the sudden inflow of oxygen from below mixing with the gases and causing an explosion, or "blow," commonly known as back draft.

The line or lines—because more than one should be advanced ready for operation if there is heavy storage of combustible stock and large, unbroken areas—should be charged, ready for instant operation. It is also a wise precaution to have a charged line near roof openings, should the fire be serious enough to endanger the roof and get into window openings or threaten exposure.

Again, let me add that store windows may be broken out where it is necessary to rid the premises of charged gases, but let me caution you to do this so as not to risk injury to men who might be caught by a backdraft. Windows can be broken by means of a hook, or short ladder operated by men standing to one side. Further, if there are fanlights over door or windows, they might be first broken out before taking out windows, to see if they will suffice to ventilate without removing the latter.

Attacking Basement Fires

Once the fire is located in the basement area, the problem is to reach it and extinguish it, at the same time confining it to prevent its extension via walls and partitions to roof areas.

Due to construction, it is usually a problem to attack the smoky cellar fire by way of interior stairways, even where masks are used. It is tough to reach effective interior positions, and tougher to hold them, when you have to face heated gases, heavy smoke and, possibly, fire itself. If this frontal attack is impossible, it is necessary to attempt to reach the fire through openings in the walk or street level, display windows or in the store floor. Once the heart of the cellar fire is located, effective work may be done by breaching party walls, if they exist, and operating streams through the openings.

Floor lights, if they are present, may be broken out and cellar pipes and distributors operated through the openings. Sometimes, when the fire is directly beneath the floor light, it may be necessary to cover this operation with a stream from a hand line until the water in the cellar or other appliance has started.

In general, fire fighting operations on a "taxpayer" basement fire are the same as those employed in fighting other type mercantile cellar fires. There is one important difference however. That is the possibility that the basement area may be open, or so partitioned or divided that the fire may quickly extend beyond the store area in which it originated. Just as the fire in concealed roof space may extend laterally almost faster than you can get to work to head it off, so the basement fire may extend laterally

(as well as vertically) into other store cellar areas until the entire basement may become involved. This calls for quick survey and size-up, and the taking of prompt protective measures.

Every once in a while, a very stubborn cellar fire is encountered and, although every effort is made to ventilate the premises, lines are unable to advance to gain their objective. This is due to the great amount of heat, gases and smoke generated by an unusual amount of combustible stock, stored in large quantities, perhaps stacked in piles to the ceiling in equally combustible containers. This stock may be stored in such a way that little or no room is left for passageways that would enable firemen to get at the seat of the fire, or it may be piled up behind partitions which prevent penetration of a water stream, or distribution of spray or water fog. Under these conditions the fire department can hardly expect to extinguish the fire without large waste and loss. Such a fire calls for heroic measures if the building above the cellar is to be saved.

When these conditions are encountered, all, or at least some of the following procedures may prove effective:

1. Flooding floors, which are nearly always coustructed of wood, with streams from hand lines, using large controlling nozzles or, in cases where there are excessive floor areas, open butts or open nozzles.

2. Using special cellar pipes or distributors, where they can be operated effectively on the fire.

3. Using heavy streams, with approved pipe and hose holders, where they are required to cover exposures, or to confine and extinguish the fire. If advisable, deck guns can be used to sweep the store interior to hold down extension of fire by stairways or through the floors or other openings. If pipe holders will aid hosemen to advance with heavy streams, they should be used.

4. Of course, covering exposures and extensions of the fire vertically, and laterally, in basement and cockloft and roof areas.

In one case, where the floor was some 21 inches higher than the street level, risers in the steps were knocked in and a 500 GPM deck pipe stream driven into the cellar. This, with the addition of a second such stream, took the starch out of the fire, and hand lines could be advanced to kill the rest of the fire.

The occupancy in this case was a bad one for the fire-fighters, as it included stored crockery in corrugated cardboard containers, stuffed with excelsior and straw. This combination, and lack of oxygen, gave the men plenty of punishment. Many suffered for days with infected eyes and throats.

One other detail in fighting basement fires, which studies of ventilation may have omitted, is: Additional ventilation often can be provided by cutting up an opening in the floors approximately 4 x 10 feet, sides, front or rear, wherever windows may be located, not neglecting, of course, to be sure that any basement ceilings are pushed down, and that all possible obstructing partitions and so on are removed to give freest possible egress to the smoke and gases by way of the floor openings, and the nearby windows or other building opening. Sometimes, in cutting floors for ventilation, we forget to locate cuts where the smoke from the openings will be quickly drawn out through a window or other opening. Of course, care must be exercised to place a guard of some sort around such openings so that no one will fall into the apertures.

Spell Off Crews in Smoky Areas

Another detail: units operating in smoke charged basements should be relieved every 10 or 15 minutes, as conditions warrant. Men made ill and incapacitated by too severe fire duty are of no value to themselves or to the department.

In conclusion, a word or two more about the attic or cockloft fire. I've emphasized the importance of heading off extension in the concealed spaces, hanging-ceilings and so on. Let me repeat it—get ahead of the fire. Don't be placed in the position of chasing it. This may mean opening a roof of a store one or two stores distant from that in which the fire appears to be centered. Don't take what looks like a dividing or party wall too literally. Many a fire has progressed right through them only to pop out in the rear of firemen working on roofs. And finally, don't overlook the cornice, particularly if it is a "hanging" cornice and of any size and extent. Fire, once introduced into such a cornice, may travel the length of the building, entering the cockloft over every store.

Fires in the roof sections may be attacked from below, if conditions enable men to get in on the floor, by pulling ceilings to expose the fire and prevent its travel. This is not a simple operation, particularly where ceilings are over 10 feet in height and of metal. Here the handy six foot plaster hook cannot be used but longer, heavier hooks are required.

Under these conditions two to three men should be assigned to a hook and it may be advisable to operate hooks in tandem, or teams. Naturally charged lines should be ready to kill fire that may be uncovered.

Summing Up

To sum up:

1. Every chief officer (and company officers, too,) should know his "taxpayers"—construction, occupancy, exposures and hazards.

2. These premises should be inspected frequently for violations to existing codes and ordinances (and violations should be removed or those responsible, prosecuted).

3. Frequent drills may well be held on such structures and where it is advisable that out-of-town companies may be required to fight fire in such places, it is well to have the companies that will be called upon also drill with the local forces.

4. Insist upon proper housekeeping: first-aid fire-fighting appliances and, where large areas are involved, if it can

(*Continued on page* 147)

A "Taxpayer" Can Make a Hot, as Well as Fast-Spreading, Fire

This more permanent type taxpayer contained the typical occupancies—including the ubiquitous cleaning shop—now a furnace. Note contents of trash can afire at far left.

FIRE DEPARTMENT INSTRUCTORS HOLD EIGHTEENTH CONFERENCE

Over 500 Registered at Highly Successful Meeting; Many Subjects Discussed

THE eighteenth annual meeting of the Fire Department Instructors Conference was held at Memphis, Tenn., on January 8-11, with an attendance of well over 500. A most interesting and instructive program was presented by leaders in the field of fire protection.

As always, Richard E. Vernor of the Western Actuarial Bureau, and Chairman of the Conference was key man, with the able assistance of Harry K. Rogers, Vice-Chairman and Emmett T. Cox, Secretary.

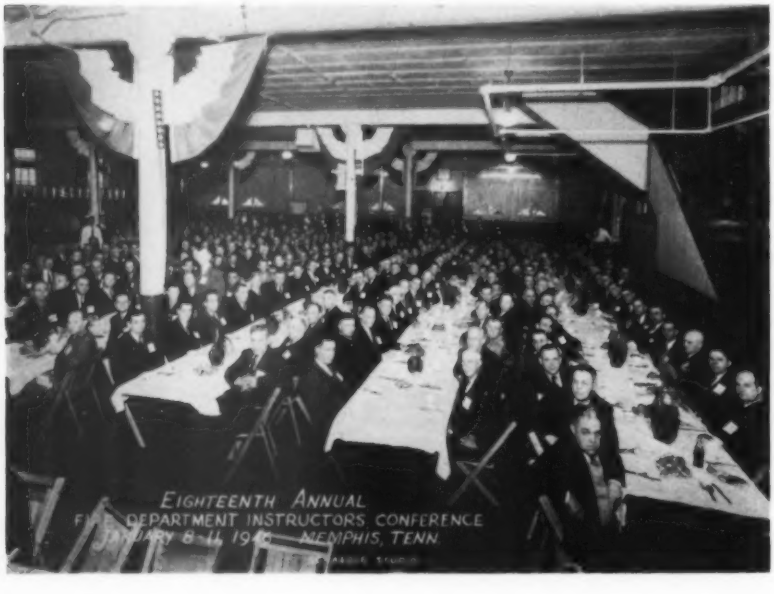
Papers Presented at the Instructors' Conference

Among the topics discussed were: "How to Get the Most Out of this Conference", by Ben E. Harris, Associate State Supervisor, Trade and Industrial Education, University of Alabama; "The Returned Veteran Fireman" by Chief Roy W. Alsip, Champaign, Ill.; "What We Learned from Civilian Defense" by Robert F. Hamm, Director of Fireman Training, Indiana Inspection Bureau, Indianapolis; "How Technical Should We Be?" by Fred Shepperd, Editorial Director, FIRE ENGINEERING, New York City; "Some Common Errors in Fire Fighting" by Sidney J. Ulrich, Fire Marshal, Peoria, Ill.; "Plant Protection during Strikes" by Captain G. F. Vernotzy, Chief Instructor, Fire Department, Akron, Ohio; "Combination Companies (Quad)" by Chief J. H. Krusenklaus, Louisville Fire Department; "100 Years Ago" by Chief J. W. Just, Director of Fire Service, Training, University of Maryland, College Park; "Industrial Fire Brigade Tournaments" by District Chief F. B. Lucas, Dayton, Ohio; "Exterminating Common Fire School Bugs" by Harry K. Rogers, Chief Instructor, Fire Prevention Department, Western Actuarial Bureau; "How to Improve Equipment for Training Schools" by Joseph I. Fetters, Asst. Supervisor, State Department of Vocational Education, Lincoln, Neb.; "The California Training Program" by Thomas S. Ward, Special Supervisor of Fire Training, Department of Education, Sacramento, Cal.; "Use and Abuse of Fire Alarms" by Calvin G. Lauber, Engineer, National Board of Fire Underwriters, New York; "Peacetime Application of Wartime Lessons" by Horatio Bond, Chief Engineer, National Fire Protection Association, Boston; "Better Showmanship in Training" by Captain James J. Smidl, Air Corps, Patterson Field, Ohio; "Maintaining Morale in A Volunteer Fire Department" by Chief Osborne E. Hirst, Galena, Ill.; "The Importance of the Water Works to the Fire Department" by Harry J. Corcoran, Engineer, Iowa Insurance Service Bureau, Des Moines; "Self-Contained Oxygen Breathing Apparatus" by Lt. Harry H. Wolff, Chicago Fire Department.

A Fire Prevention Hour consisting of three twenty-minute presentations included William A. Hamilton, Manager, Chicago Board of Underwriters; Chief Frank Egenreither, St. Louis Fire Department; Chief Ray T. Hall, Benton Harbor, Michigan, Fire Department.

Other papers included the following: "Preventing Bowling Alley Fires" by John H. Craig, State Fire Marshal, Springfield, Ill.; "Some Newer Fire Hazards" by Professor H. R. Brayton, Texas A. & M. College, College Station; "Through the Other Fellow's Spectacles" by W. A. Ross, Consultant, Public Service Occupations, U. S. Office of Education, Washington, D. C.; "Trends in Training School Design" by Warren Y. Kimball, Editor, *Volunteer Firemen*, National Fire Protection Association, Boston; "Welding Hazards" by William S. Smith, Safety Director, Ford Motor Company, Dearborn, Mich.; "Atomic Energy as Applied to Fire Control" by Dr. Jefferson Fordyce, Atomic Survey Commission; "Fire Department Cost Records" by Larry B. Schloemer, Fire Prevention Engineer, 6th Service Command, Chicago; "Fighting Aircrash Fires with Ordinary Equipment" by Chief Robert Hanigan, Air Base, Pierre, S. D.; "Maintaining Efficiency of Industrial Fire Brigades" by H. C. Kraemer, Maintenance Supt., Servel, Inc., Evansville, Ind.; "Essentials of a Modern Fire Station" by George Tatnall, Engineer, National Board of Fire Underwriters, Chicago; "What's New in Minor Equipment?" by W. B. Larkin, Engineer, Missouri Inspection Bureau, St. Louis; "Reconversion Hazards", by J. T. W. Babcock, Asst. Chief Engineer, Factory Insurance Association, Chicago; and "How to Murder a Demonstration" by Chief J. W. Just, Director of Fire Service Training, University of Maryland, College Park.

Two quiz programs, "Inquisition Please", were conducted by Harry K. Rogers. Those participating included Captain J. W. Davis, Drillmaster, Miami, Fla.; R. C. Loughead, Chief Engineer, Michigan Inspection Bureau, Detroit; R. O. Muenster, Fire Department Instructor, Texas A. & M. College; E. A. Taylor, Deputy State Fire Marshal, Salem, Ore.; R. C. Byrus, Fire Prevention Engineer, Iowa State College, Ames, Ia.; Frank McNea, Battalion Chief, Cleveland, Ohio, Fire Department; L. B. Gregg, Engineer, Oklahoma Inspection Bureau, Oklahoma City; H. S. Elkins, Itinerant Instructor, Tennessee Department of Education; L. C. Anderson, Fire Prevention Engineer, Ontario Fire Marshal's Office, Toronto; and C. H. Whitaker, State Instructor, Department of Vocational Education, Jackson, Miss.



Luncheons Provided by the City of Memphis Were Enjoyed By All

Melamine Exonerated by Tests Conducted Before N. E. Chiefs

Demonstrations Prove Common Combustible Materials Equally Hazardous from Standpoint of Toxic Gas Generation

FEARS expressed by fire-fighting authorities over the possible hazards in this "plastic and chemical world" are completely unfounded, according to statements by Dr. Foster Snell, president of Foster D. Snell, Inc., speaking before a large group of New England fire chiefs, public officials and members of the Massachusetts Safety Council, January 16, at the Copley-Plaza in Boston.

The New York scientist and two assistants staged a dramatic demonstration before the audience to show the effects of toxic gases present in fires produced by household materials used for years as contrasted with the relative safety of newer and less familiar substances, chiefly in the plastic field, of which melamine is one.

High interest in the subject of toxic gases produced by burning materials of all sorts has been raised in New England by a series of fires in which firemen have been overcome by smoke, and by a misleading report from a university laboratory which wrongly assayed the dangers of combustion gases from melamine, Dr. Snell said.

According to the scientist, the average householder would be astounded to know that such common, everyday substances as newsprint, steak, milk, clothing and wood produce toxic gases if burned under certain conditions. "But that doesn't mean," he said, "that they are ever such a hazard to life that we should discontinue using them. The new things you have been hearing about are not usually new from the standpoint of the fire-fighter because you usually encounter them where there is a fire. And they are decomposed by burning into exactly the same materials as the old products you have dealt with in the last hundred years. In many cases, the new products, plastics or solvents, as examples, are less of a fire hazard than the more familiar products they supersede."

Dramatically illustrating his contentions, Dr. Snell exposed white rats without harm to toxic gases in concentrations that would be encountered in normal fire conditions. To demonstrate the difference between fire conditions where there is an air supply, and high-temperature heating in the absence of air supply, Dr. Snell exposed a white rat in a closed container to the gases produced by burning common newsprint following which the rat quickly suffocated and died.

"This is a chemical age in which advances so far as living is concerned are probably fifty per cent as a result of something new chemically," Dr. Snell said. "For the first time in this chemical age manufacturers and their chemists have a large accumulation of new developments which have not yet reached the public. Many of the new developments are simple modifications that is, simple, to us as chemists—of things which were known long before the war.

"These new things," he said, "are from the fire-fighting standpoint seldom new at all. They are combinations of old materials in a new way to obtain a new

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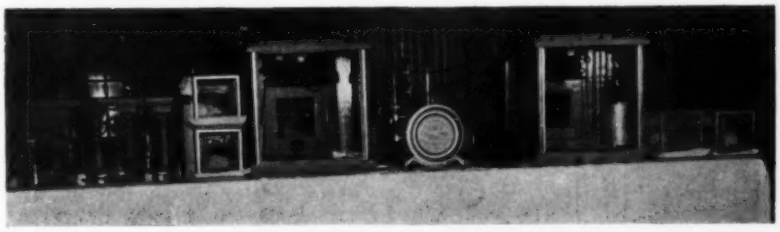


Laboratory Set-Up Used for Demonstration of Gases Produced by Heat and Combustion

At the Luncheon Meeting of the Fire Chiefs Club of Massachusetts Held in Conjunction with the New England Association of Fire Chiefs and the Massachusetts Safety Council

Above, left to right: Dr. F. D. Snell, New York Consulting Chemist, who spoke on the hazards of new materials, including melamines; Chief Charles F. Stackpole, Lowell, Mass., President of the Fire Chiefs Club of Massachusetts; Harold J. Burke, New York City deputy chief, on terminal leave as Captain, USNR, and Chief Samuel J. Pope, President of the International Association of Fire Chiefs. Below, left to right: Alfred N. Miner, Gilmour, Rothery & Co., Boston, Vice-President, Massachusetts Safety Council; Dr. Foster Dee Snell; Chief Daniel B. Tierney, Secretary-Treasurer of the International Association of Fire Chiefs; Chief Charles F. Stackpole and Chief Samuel J. Pope.

PUTTING JET PUMPS TO WORK TO AID IN PUMPER OPERATION

Assist in Raising Water as Well as in Protecting Pumpers Against Damage

By A. E. REINHARDT*

THE extensive acceptance of water jet pumps by the U. S. Naval and Maritime Services, and wide use by industry, suggests their use by municipal fire services. The jet's simplicity, its portability and absence of any moving parts, all combine to give it versatility.

Figure 1

A jet pump can be of service when the conventional pump is unable to draft water because of excessive suction lift conditions, or because the source of supply is otherwise beyond reach of the suction line. The jet can solve this

Figure 2

problem by acting as a booster to transfer water from the source to the suction side of the pumper.

*Chief Engineer, Jet Division, Derbyshire Machine & Tool Company, Philadelphia 44, Pa.

Figure 1. shows the two hose lines which connect the pumper to the jet.

One of these, leading from the discharge side of the pumper, supplies the driving water to the jet. As this driving water passes through the jet, it entrains and draws along with it additional water from the well or creek. The second hose carries this added water, along with the driving water, back to the suction side of the pumper. Thus these two hose lines carry water round and round the loop from the pumper to the

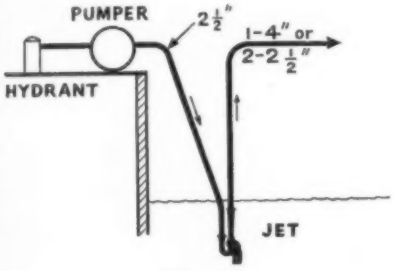


Figure 3

jet, with a surplus continuously being picked up for use on the fire.

Figure 2 shows a pumper lifting water over 50 feet from beneath a bridge.

The jet will also permit reaching out horizontally 100 feet or more to take from the source of supply. When used for drafting from inaccessible water supplies as illustrated, the jet is equipped with a foot valve and is primed from the booster tank in the conventional manner.

Figure 3 illustrates a second application showing the jet removing water or other liquids from a flooded cellar, manhole, or similar area.

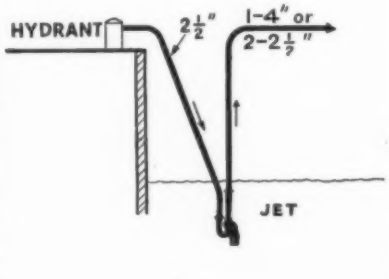


Figure 4

In this case it will be noted the pumper is handling only clean water from the hydrant and no damage to its moving parts can occur from large scale foreign matter or abrasive particles. This is true because any debris present passes only through the free passages of the jet, and not through the pumper.

Figure 4 illustrates a third suggested application where the jet is pumping out a flooded area by hydrant water pressure alone, where this is available.

In this case no fire equipment, except hose, is used to accomplish results.

In both Figure 3 and 4 it will be noted that the jet needs no foot valve or conventional strainer and that it will take out all but a thin film of water on a cellar floor. In both cases, although the water be loaded with mud, sand, coal dust, or other abrasive matter, the jet will handle it safely and easily and damage to the fire pump is avoided. It is also an interesting fact, that pumpers can remove water two or three times more rapidly from a flooded cellar with the aid of jets, than is possible by drafting directly.

Figure 5

Figure 5 illustrates a jet that has been cut away to show its interior.

The clear passages, the flow of driving water through the nozzle, the new water drawn in and pulled along, as well as the discharge water, are shown.

"Surplus" C. G. Fireboats For Sale

Dated January 21, the U. S. Maritime Commission issued printed invitations for sealed bids for the purchase of twenty-six fireboats of the jet propelled type, formerly used by the U. S. Coast Guard.

Three of the boats listed were built in 1943, the balance in 1942. They are all of the 10¼-ton type, built by Hanley Engineering Service, with dimensions of 30'6" x 10'6" x 2'6"; have 4 Chrysler Industrial engines, 28.35 HP, with fuel capacity of 260 gals. of gas.

The boats are located as follows: Chelsea, Mass. (1); Brooklyn, N. Y. (2); Port Richmond Wharf, Philadelphia, Pa. (1); Bucksport, S. C. (4); New Orleans, La. (2); Chicago, Ill. (5); Wilmington, Calif. (2); Alameda, Calif. (5); San Francisco, Calif. (1); Aberdeen, Wash. (1) and Bellevue, Wash. (1).

Particulars, together including the necessary forms to be filled out in making bids, may be had from the Secretary, U. S. Maritime Commission, Room 4852, Washington 25, D. C., or from the International Association of Fire Chiefs, 24 West 40th Street, New York 18, N. Y.

I. A. F. C. DIRECTORS MEET: CONFERENCE PLANS ARRANGED

To be Held at Cleveland, Ohio, July 22-26; Hotel Statler Selected as Headquarters

THE annual meeting of the board of directors of the International Association of Fire Chiefs was held at the Hotel Pennsylvania, New York City, on January 22-24. During the three-day session, the Board reviewed plans for the annual conference, set up the budget for the current year, and took other action with an aim to strengthening the Association and increasing its service to members.

Dates for this year's conference were set at July 22-26, this being the only week during which the civic auditorium would be available and in which sufficient hotel rooms would be available. Meetings and exhibits will be staged in the auditorium; the Statler will be hotel headquarters.

Some interesting data on the present state of the Association were brought out during the meeting: although the conference of last year was cancelled, due to travel revenues, the year finished up with a profit of $24.94. The total assets of the Association as of December 31 were $24,042.89. During the year over 2,000 new members were added, making the present membership of the Association the greatest enjoyed since 1934.

Those present at the meeting included the following: Chief Samuel J. Pope, President, Boston, Mass.; Chief Charles A. Delaney, Lakewood, Ohio, First Vice-President; Chief Frank C. McAuliffe, Salvage Patrols, Chicago, Ill., Second Vice-President; Chief Daniel B. Tierney, Arlington, Mass., Secretary-Treasurer; Jay W. Stevens, San Francisco, Cal., Executive Secretary; Chief Selden R. Allen, Brookline, Mass., Director New England Association; Chief G. R. McAlpine, Oklahoma City, Okla., Secretary of the Southwestern Association and acting Director; Chief Ray Tiller, Waterloo, Ia., Director, Missouri Valley Association; Assistant Chief Frank Deen, Lancaster, Pa., Director, Eastern Association; Chief A. J. Baker, Lewistown, Mont., Past President; Former Chief Peter Steinkellner, Milwaukee, Wis., Director, Great Lakes Association; Chief J. T. Keegan, Salvage Patrols, Newark, N. J., Chairman of the Exhibit Committee; Former Chief Charles E. Clark, Wayne, Pa., Secretary, Eastern Association; I. H. Case, Publicity Director, and Fred Shepperd, Engineer-Manager.

Also, Deputy Chief Harold Burke, N. Y. Fire Department, formerly Captain U. S. N. R. in charge of the Navy Fire Fighting Schools; George J. Richardson, Secretary-Treasurer, International Association of Fire Fighters, Washington, D. C.; George J. Kuss, Woodhouse Manufacturing Company, New York, N. Y.; Joseph Green, Eureka Fire Hose Division, U. S. Rubber Company, New York City; Hugh Walker, American-LaFrance-Foamite Corporation, Elmira, N. Y.; Roi B. Woolley, Assistant Editor, FIRE ENGINEERING; Clarence Meek, Mack Manufacturing Company, New York City; Harry Cavanagh, American District Telegraph Company, New York City; Former Chief George Mitchell, East Orange, N. J., Treasurer, Eastern Association; Chief Charles A. McGinley, East Orange, N. J.; Deputy Chiefs J. J. T. Waldron and William Taubert, Acting Chief Frank Murphy, and Fire Commissioner Frank J. Quale, Jr., New York Fire Department.

Atlantic City Fire Costly

The Bayles Drug Store, said to be the largest in Atlantic City, and the adjoining Warner Hotel were swept by fire early on the morning of January 16 with reported loss of over $200,000.

The blaze, discovered at 8:40 A.M. while pharmacists and clerks were busy with early morning trade, made rapid headway through the old store building at Michigan and Atlantic avenues, communicating to the adjoining three-story stone and wood Warner Hotel at 2 S. Michigan avenue, which was completely gutted.

Nine occupants of apartments in the three story Bayless Building, including the wife of one of the owners and her two small children, were forced to flee into the biting weather, with the thermometer registering 17 degrees.

The red brick structure housing the Bayless Drug Store was one of the first brick structures erected on Atlantic avenue for business purposes. In 1888 it was known as Cuskaden's Drug Store, after its founder. At the time of the fire, besides the drug store a luncheonette, a yarn shop, hotel equipment store and the Stadler Restaurant following along Atlantic avenue suffered some damage or were threatened.

The fire, for which three alarms were sounded, calling out eight engine and four ladder companies—practically the city's entire fire force—was fought largely from the outside of the building, owing to the speed with which the structure became involved by the flames. Chief Rex Farley directed operations. Ice encrusted firemen used two aerial trucks as water towers and several deck pipes and deluge sets. It is reported that this was the first three-alarm fire at the resort since February 26, 1945.

While Chief Farley's forces struggled with the blaze, apparatus from suburban Ventnor, Margate and Pleasantville moved into the city's empty fire stations to "cover-up." The Fire Bureau reports that while the Bayless fire was at its height, another alarm was received and transmitted for a dwelling fire. The locating and covering companies were in action at this fire twenty-five minutes.

Although the origin of the Bayless fire has not been determined by Chief Farley, Commissioner of Public Safety Cuthbert or insurance adjusters, who combed the ruins, following the fire, it was believed to have originated in the heater room of the drug store.

General Alarm Fire in Atlantic City

Atlantic City, N. J., firemen, aided by firemen from Ventnor and Pleasantville, battled this fire in a three-story building for three hours.

For Practical Discussion of Current Fire Department and Fire Management Problems

FIRE PREVENTION MEASURES DURING CHRISTMAS HOLIDAYS

THE discussion in this round Table is a continuation of that which appeared in the January issue of FIRE ENGINEERING on fire prevention measures during the Christmas Holidays.

The general response from our readers makes it necessary to carry the discussion over to this issue and also to the March issue.

Readers are invited to send in their comments on this subject. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

Discussion of the Topic

C. G. Burnett, Chief, Ottawa, Canada: During the holiday season, inspections were made of the main business sections of our city, which include the large department stores, most of which are sprinklered.

Hotels, places of public assembly and public institutions were inspected with special regard to exits and fire escapes.

Churches and public halls where large crowds gather, were inspected in December with special attention to exit facilities and general housekeeping conditions.

In all these inspections, those in charge of premises were warned against the use of decorations, lights on Christmas trees and other sources of rapid-fire spread.

Newspapers were used to convey a personal warning from the fire chief about holiday hazards and newspapers added editorials on the same subject for good measure.

I cannot remember any death by fire due to special hazards created by holiday conditions in stores or places of public assembly. There have been fires in the past which spread rapidly due to Christmas tree decorations and Christmas trees, but not in recent years.

James E. Granger, Chief, Cleveland, Ohio: Cleveland did not have a single incident to mar the holiday season. We attained this success by a great deal of hard work.

A month before Christmas we started our radio program in which we warned Clevelanders of the dangers of the holiday season. These warnings were broadcast over the local stations five times a week.

A letter of warning about the seasonal hazards was sent to the owner or manager of every store, large and small, in this entire area. Their cooperation was requested.

"No Smoking" signs were distributed by the members of the Bureau of Fire Prevention to all the stores and this warning was rigidly enforced.

All members of the Fire Prevention Bureau, as well as a sizeable detail from the various companies were detailed to police the stores during the shopping season.

In addition to all this, the local newspapers carried weekly news articles. Articles were carried not only in the daily papers but in every foreign language paper printed in Cleveland, or circulated here.

C. A. Hart, Chief, San Antonio, Tex.: Our fire inspectors concentrated their attention on the downtown stores, theatres, night clubs and other places of public assembly to make certain that all Christmas trees and decorations were made of fireproof materials or treated to make them fire-resistant; to check all fire exists, lights, etc., in night clubs and theatres and other places of public assembly. Stores were checked to make certain that loose paper, wrapping paper, excelsior and other inflammable material were kept off the floor.

We used all newspapers in the city to warn the public of holiday hazards including all official school papers, papers of different religious denominations, neighborhood papers, daily and Sunday papers and the Boy Scouts' Bulletin. This method has been found very effective.

Bulletins are placed in all local schools warning children of the dangers involved in the handling of fireworks and other hazards usually connected with the Christmas and New Year holidays such as inflammable Christmas trees, decorations, cotton, santa claus uniforms, wrapping paper, etc. In these bulletins the children were informed of the hazards found in the home during the Christmas season and told how these hazards can be eliminated by taking proper procedures to render the Christmas tree and all decorations fire-resistant with the use of a flameproofing formula. Leaflets were distributed to all schools listing the various fire hazards found there during the winter and holiday seasons, and showing how these can be eliminated. The public was advised by the local newspapers of an ordinance passed by the City Commissioners of San Antonio prohibiting the use, shooting, discharging, exploding, igniting or displaying of any fireworks within the corporate limits of the city and providing a penalty for violation up to $200.00 for each separate offense. This article suggested that by complying with the law on fireworks the chance of serious accident would be greatly lessened and fire would be prevented.

Sidney L. Ulrich, Chief, Peoria, Ill.: We require places of public assembly where large crowds gather to have a uniformed fireman on duty. We also have uniformed firemen on duty in our large department stores, plus constant inspections by our regular fire inspectors.

We feel that radio and newspaper announcements on fire prevention, especially during the cold weather, go a long way in cutting down fires. While we have no positive way of knowing how many fires they prevent, still we do know they are getting across to the public for they talk about it and also call us for advice and information relative to fire prevention measures.

We bear down on our code covering decorations in stores, schools and theatres, and all decorations must be flameproofed. We do not permit overcrowding. During the evening store hours, just before Christmas, we had a special detail of uniformed firemen doing patrol duty through the stores.

We feel that we have had good results from this practice.

Joseph A. Kirby, Chief, Dayton, Ohio: The larger stores in this city hire firemen and station them throughout the store during the Christmas rush. "No Smoking" signs are conspicuously placed throughout the store and we take every precaution to protect the people. The same applies to places of public assembly other than those to which we detail firemen.

We had quite a number of radio programs and newspaper articles. Speakers were furnished by the department to noontide clubs and as far as practical, an educational program was conducted throughout the city.

Whenever possible firemen were detailed from fire stations throughout their districts for home inspections. Dayton, like most other cities, has its shortage of manpower.

Considering the manpower situation and what we have to do with, I believe we have very well controlled

HERE IS THE QUESTION

1. **What fire prevention measures, if any, are taken to protect Christmas crowds in stores and other places of public assembly?**
2. **Have you used, and found effective, radio and newspaper for warning the public against holiday hazards?**
3. **What other means do you employ to guard against fire and life loss during the holiday season?**
4. **How effective have they been?**

the problems and conditions which confront us.

R. E. Pare, Chief, Montreal, Que.: Places of public assembly are well controlled by frequent inspections during meetings.

Stores are inspected at least twice a year. All exits are well checked. Recently smoking was prohibited in such places. Flimsy decoration is not permitted.

Newspapers helped us to warn the public and in recent years the results were fine, be it due to chance or to safety measures.

Special inspections were made before the Christmas season and an employee of the store put in charge of protection.

L. L. Petrey, Chief, Mobile, Ala.: Large department stores and five-and-ten-cent stores employed from two to four uniformed firemen each day during the two weeks before and during the Christmas holidays. These firemen were on the off-shift and received $7.00 per day.

All dances at the hotels also employed a uniformed fireman on the off-shift who received the same amount.

We have found radio and newspaper warnings to the public against holiday hazards to be very effective.

William C. Garvin, Chief, Yonkers, N. Y.: During the early part of December store owners or managers were contacted by a member of the Fire Department Inspection Bureau and advised about the hazards incidental to the Christmas season, and how to guard against them. About the same time an article appeared in the local press soliciting the cooperation of the public, store owners and employees to assist the Fire Department in the enforcement of the "No Smoking" edict.

For about ten days preceding Christmas the stores were patrolled by uniformed firemen to see that Fire Department regulations were complied with. Particular attention was paid to exits, smoking, fire extinguishers, inflammable drapes (not permitted), and facilities for handling and storage of excelsior and wrapping materials. Christmas trees are not permitted.

A week or so before Christmas an article was published in the local paper pointing out the common fire hazards brought in the home during the holidays with suggestions as to how to deal with them. Results have been good.

Taverns and places of public assembly were inspected for inflammable drapes and other violations. School pageants and public Christmas parties for children had firemen detailed there, and the premises were inspected before the program was permitted. Christmas trees are not permitted in any part of a theatre building.

C. W. Brown, Chief, Wichita, Kans.: Stores, where Christmas decorations were sold were inspected just prior to the Holiday Season and during the season as well to discourage the sale of outstanding hazards, one in particular, the candle holder, which clamps on the branches of the tree. We discovered several of our leading stores stocking this particular type; so we immediately contacted the store managers and discussed with them the danger that is always present when such gadgets were used in connection with decorating. They were very cooperative and agreed to remove the holders from their counters.

Placard Placed in Store Windows in Wichita

Also included in our tour of inspection—and naturally the one we are most concerned about—was the checking of exits. In this respect, the main features were of course: open aisles and passage ways, clearly marked exits, stairways in good condition and free from storage and other obstructions, removal of excess trash and no doors to be locked which could be used in case of an emergency.

One of the hazards we were frequently confronted with was low hanging combustible material used in decorating the stores proper. In these places we recommended such decorations be flameproofed or raised high enough to eliminate the possibility of being touched off by a careless smoker. We also checked to see that none of these streamers were over or near gas heaters and other appliances that might touch them off.

We are very grateful to our press and radio for their cooperation, not only during the Holiday Season, but during other activities we have had in the line of fire prevention. They have always given us their fullest cooperation when it comes to the protection of Life and Property. In our opinion, this source of communication is extremely effective.

Placards—a photograph of one is shown—were placed on Christmas trees which were located in display windows of several leading stores in the downtown business area to remind the public that such trees are a hazard to life and property and therefore, should be removed immediately after Christmas.

A tag with instructions on their care was tied on Christmas trees in the retail stores by the Boy Scouts. The Scouts did the tagging of trees on the three Saturdays prior to Christmas. In this manner we were able to catch new shipments as they came in during the three week period. This was quite a job for the Scouts and we are indeed most grateful to them for a job well done, and especially their fine attitude in giving us a much needed hand.

Other means of communicating messages to the public is our sound truck. We have used this type of communication for three years and we believe it to be very effective. We not only work the business area with this truck, but the residential section as well.

George Sinclair, Chief, Toronto, Ont.: The problem you bring up is a most contentious one and difficult to solve.

There are so many factors entering into the question, it would be impossible to have absolute control.

Some organizations are more or less concerned and when these contact me, I see that a uniformed fireman is in attendance at their gatherings.

We have used the radio and the newspaper angle and it is somewhat hard to determine the results.

With the staff I have I endeavor to see that every precaution is taken to prevent fire or loss of life during the holiday season.

W. G. Lutkey, Chief, Oakland, Cal.: Decorations in places of public assembly, including Christmas decorations, are required to be flameproofed. Stores are constantly inspected to keep accumulations of rubbish and wrappings to a minimum.

Numerous articles were published in the local papers; several radio talks and spot announcements were given over the Oakland area stations. Pictures and displays were shown in a number of large store windows. They were effective to the extent that but one Christmas tree fire was reported and that was caused by a short in the tree lights.

Christmas tree sales lots were regulated to see that they were not established in dangerous locations. We recommended the sale of flameproofed trees and Underwriter Approved equipment and insisted that the lots be cleaned and all unsold trees disposed of as soon as possible

Those Used Christmas Trees

Chief Frant T. Miller, Linden, N. J., like many other fire officers, worried over the problem of what to do with old, dried-out, discarded Christmas trees. Last Christmas he decided to do something about it.

With the help of the Linden Rotary Club, which sponsored the idea, and local school superintendents and teachers, the people of the community were enlisted in a drive to see that all old trees were collected and destroyed, in ten huge community bonfires on three successive nights following the resumption of school after the holidays.

Locations of the proposed bonfires were announced and reuqests made that trees be brought to the nearest site or, if the trees were left out for pick-up, they would be collected by the city garbage collectors.

The fire department supervised the burning of the dried-out trees and, so the reports say, youngsters and adults had a good time. Street Commissioner John Messler was happy, too, because the bonfire idea lessened the bulk of the load his men hauled, and solved the problem of conserving space at the dumps.

The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

Orchids for the Month

The month's bouquet goes to Walter N. Bell, Seattle, Wash., fireman, whose fast thinking and action when he was off-duty is credited with checking a blaze that routed seventy-three aged guests from a large Seattle rest home late one night, when fire of undetermined origin spread throughout the basement, filling the upper stories with smoke.

Bell, at his home nearby, sent in an alarm, then proceeded to attack and extinguish the blaze with a neighbor's garden hose.

* * *

Sweet Daddy's Peace Needs Sugar

Sweet Daddy, the husky Negro who calls himself Bishop Charles M. Grace in Philadelphia, Pa., temporarily shoved aside the matter of getting this peace straightened out and publicly baptized 200 converts to the House of Prayer for all People.

Robed in black, the "Bishop" climbed a six-foot platform in a downtown Philadelphia street and told a crowd of 1,500: "I got to see this peace straightened out real soon. And I'll need plenty of money for it."

"Amen, Sweet Daddy" the crowd called back. "It's waiting for you."

Sweet Daddy climbed down from the platform and observed the 22-minute dosing of the white-robed candidates with a 2½-inch fire stream—borrowed from the fire department and manned by two husky Quaker City firemen.

What won't the fire service be called upon to do!

* * *

Would You Call It the Moonshine?

This one is vouched for by sober-minded Bob McCleaster, so it must be so, but it sounds like somebody musta been a bit "tetched."

Bob writes: The other evening during a class in fire fighting that I was conducting at New Bloomfield, Pa., a call came in for the fire company for what was supposed to be a large fire in a garage and service station about five miles out of town. Of course, we responded and after traveling about four miles we were met and stopped by the owner of the garage, who stated he was extremely sorry but he was mistaken about the fire. What he really saw was the reflection of the moon on the roof!

Strange as it may seem, adds Bob, the owner does not drink anything stronger than pop! Well, we've heard tell about Jersey Lightning and Kentucky Mule, but this is the first to come our way about the potent powers o' Pennsylvania Pop!

* * *

The Ham What Am—but Ain't

From Brother Sprangers, Philadelphia contrib, comes the one about the 80 hams—smoked hams—that went to the fire once too often, or something like that there.

Seems that it's kinda difficult to determine when a smokehouse is just smoking, for business, and when it's on fire. There's a difference. And if you think it's purely technical you haven't the fatherly regard for 100 hams as has John McGowan, packinghouse watchman in the City of Brotherly Love—and hams.

Back on the farm the answer was simple, and plainly evident, when the old wooden smokehouse was reduced to a shovelful of embers and charred fat.

But in these days of fireproof smokehouses, a watchman's nose is required to be extraordinarily sensitive. And that explains why Mr. McGowan detected danger to 100 hams not so long ago in the smokehouse of John J. Felin & Co. plant in Philadelphia.

He was passing by and when that good hickory odor seemed a bit too strong, he opened one of the great iron doors which separates a modern smokehouse from the rest of the building and, sure enough, twenty hams were in flames.

McGowan pulled the nearest private fire alarm box in the plant and then a city alarm outside, bringing six fire companies to the scene. The watchman and other employees carried 80 hams to safety.

Deponent sayeth not what the Brothers were doing all that time!

* * *

How to Sleep Soundly—Join U.C.F.D.

Half a dozen of the scissor-eyed clippers sent us the one about the Union City, N. J., Brothers—fourteen of 'em—all of Truck 1 and Engine 1, who slumbered peacefully early one December day while fire swept a one-story structure adoining the fire house. Even the heavy pall of smoke that filled the sleeping quarters of the firemen, say the reports, failed to awaken 'em.

According to the wayward press, after the fire had enveloped one wall and the roof of the building next door, a passer-by rapped on the window of the fire house to awaken the snoozers. Once awake, the firemen were quick to keep the blaze from spreading to their quarters. We are told that they are now laughingly referred to by their fellow firemen as members of "Beauty-Rest Hall." . . .

* * *

Don't Run—Walk to the Fire!

From W. A. McDonnell, St. Louis, Mo., comes news of the firemen of Salt Lake City who proved that it is possible to save time by walking.

The smoke eaters left their equipment at the station, walked to the scene of a healthy blaze and had it out before an alarm could be turned in—that's the way the press had it. The fire was in an adjacent building. Mebbe so, mebbe so, but we kinda wonder how they put out a "healthy blaze" without their equipment!

* * *

Avert Cyanide Peril

New York Central Railroad wrecking crews, working by artificial light, uncovered a forty-ton freight car of potassium cyanide from beneath train-wreck debris and found it—with its deadly contents intact—just two feet short of Pine Creek, a tributary of the Susquehanna River which supplies a number of Pennsylvania communities with drinking water.

The discovery at least temporarily eliminated the danger of the contamination of the drinking water for these communities, according to John F. Delaney, division superintendent of the railroad. He said that the gondola, covered by a sheet-metal top, lay on its side with the wheels facing the creek and a thorough search disclosed no traces of seepage of the poisonous cyanide.

No fire was involved in the wreck, it is reported.

* * *

Many Cleveland Gas Lawsuits

Twenty-six suits for aggregate damages of $2,000,000 were filed the end of November in Cuyahoga County Common Pleas Court at Cleveland in behalf of the estates of as many employees who died in the East Ohio Gas Co. fire and blast Oct. 20, 1944. The suits name as defendants the Gas Machinery Co. of Cleveland as general contractors for the gas tanks; the Pittsburgh Des Moines Co., Pittsburgh, as a corporation and a partnership serving the subcontractors for erection of the tanks, and the city of Cleveland, as violating the city and State building codes in not providing property safety measures. The explosion and fire at the East Ohio liquefied gas storage plant caused 134 deaths and over $6,000,000 property damage.

It is reported that sixty-five suits, seeking damages of more than $5,000,000 have been filed against the Des Moines Steel Co.

* * *

Real Tragedy!

Seldom have we printed as sad an item as this, sent by several of the Faithful. It is about little Clyde Chadwick, 5-months old son of Clyde L. Chadwick, former amateur boxer and member of the New York Fire Department's Bureau of Combustibles.

Baby Clyde was in his baby carriage, parked in front of the parent's apartment house in the Bronx, while the mother left him for a moment to visit relatives.

Two six-years-old schoolboys, playing with matches, set the baby's carriage and the baby afire, and fled.

A woman neighbor and a delivery man rescued the tot from the burning vehicle and he was rushed to Fordham Hospital, where it was learned that he had been critically burned and permanently blinded.

* * *

Of What Value Maintenance?

When Van's Laundry and Dry Cleaners plant at Tampa, Fla., burned with two adjacent negro houses, according to a clip 'sent by contrib' S. E. Hellberg, Army Air Forces, Venice, Fla., a used car dealer across the street from the fire rushed to the nearest box, only fifty feet from the laundry, and attempted to send in the alarm.

It refused to operate. A city patrolman, so the story goes, reported that even pliers and a hammer failed to open the box after an apparently rusted lock would not function.

The fire department was finally summoned by telephone.

Which reminds us how long since we've heard tell of such a happenstance! Seems to us there's a moral to this yarn. What about servicing fire alarm systems?

Short Cuts and Gadgets

KEEP PUMP INSTRUCTIONS SAFE-AT-HAND

No matter how clever and experienced a pump operator may be, there may come a time when he may want to refer to the manufacturer's or the fire department's book of instructons. And that time conceivably may be when his pump is working at a fire—or isn't working when it should.

The following suggestion from T. F. G., Cleveland, O., has to do with this situation. He says: I have read several articles about fire pump failures. For example: one pump could not draft water; it was out of service for 30 minutes until the regular operator reported for duty. The reason for the pump failure was an open valve that the relief operator didn't notice. Another pumper did not get water because the pumps were not in gear.

Pump troubles are to be expected if the equipment is not being used at the rated capacities, and remedies can be effective only when causes are determined. Most all fire pumpers have capable operators and relief operators, but if the regular operator is sick and the relief operator is on a day off, this is generally the time when you will have some difficulties with pump operations.

Many fire pumper instruction books are lost or mislaid. It is difficult to correct your troubles when caught like this.

A complete set of pump instructions should be printed about the pumps' normal operations, failures, causes and remedies—and about proper upkeep, or what the Army calls "preventive maintenance." These instructions should be kept in sight of the pump operator, or within easy reaching distance. A neat 8 x 10-inch celluloid envelope can be purchased or made to hold these instructions and keep them clean, dry and readable.

* * *

OFFSET EXTENSION TIP

From contributor Henry T. Hanson, Maynard, Mass., comes sketches and description of an offset extension tip which will quickly convert any standard nozzle into an effective cellar-pipe that may be operated through holes cut in floor, roofs, cellar windows that are set in curbings below ground level windows (Fig. I), such as are found below store display windows (Fig 2) and many other tight spots.

Mr. Hanson describes it thus: This device is made up from a four foot length of one and one-half inch water pipe; a one and one-half inch forty-five degree elbow; a one and one-half inch plain play pipe, and a large size standard two and a half inch nozzle tip having a one and one-half inch iron pipe leader-line thread.

The pipe is threaded at both ends and bent into a forty-five degree curve. The protecting ring is removed from the nozzle tip and the extension pipe connected to the nozzle with the forty-five degree elbow. The one and one-half inch play pipe is cut back from the tip end enough to obtain a one-inch orifice, and is then attached to the other end. The whole assembly should then be set up tight with wrenches.

According to "gadgeteer" Hanson, one of the chief advantages of this device is that it may be shifted from one line to another as needed, as easily as changing an ordinary nozzle tip, it being necessary to only close the nozzle shut-off rather than having to shut down the entire line, as must be done to attach the ordinary cellar pipe.

He points out that one precaution must be observed when operating this device: care should be taken to have the curve of the pipe resting against a solid object before opening the nozzle, as the reaction is difficult to control.

Seems to us this is a good partner to the "bent cellar pipe" used by New York and other municipal fire departments.

* * *

HONORING HEROES OF WORLD WAR II

It is becoming more and more popular to honor heroes of local fire departments who have made the supreme sacrifice by inscribing their names and records on new apparatus, engraved with some such phrase as "In Honor of Fireman Blank Killed in Action on Okinawa—Blank date".

* * *

WRITE IT DOWN—IN RECEIVING ALARMS

On one of our visits to the headquarters of a certain volunteer fire department, we ran across a practice which appealed to us as having sense and which might well be applied by volunteer (and paid) fire companies, generally.

This is the order that the watchman, or other person receiving an alarm of fire by telephone, shall write down the location on suitable paper; further, that he shall repeat back the address and any other details to the person telephoning it.

Writing it down and reading it back insures getting the details correctly—and does more. If the company responds and no one is left in quarters, as so often happens, a fireman, policeman or other person calling at the station, perhaps to learn or verify the location of the call, will find the necessary data on the memo pad usually located on the watchman's or dispatcher's desk.

* * *

HOSE TAGS

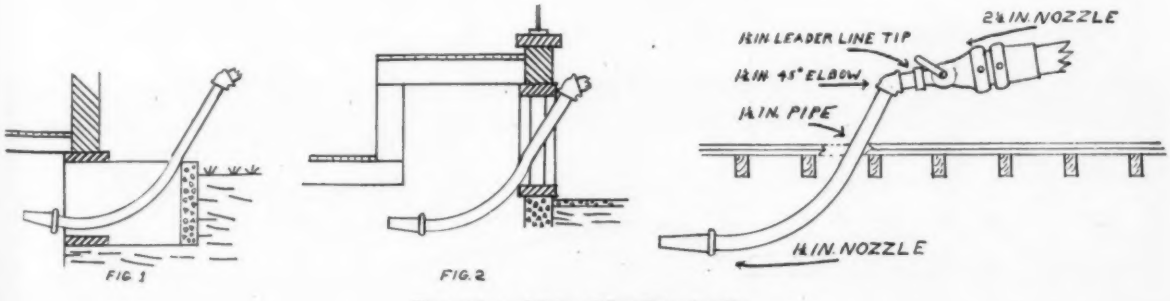
Contrary to general impressions, not all municipal—and very few volunteer fire departments—carry hose tags, or as the British call 'em "hose tallies." Yet these markers are a real help in identifying lines at a fire or drill. There are many kinds, from metal to plastic, and the one illustrated is similar to that used by the New York Fire Department. It resembles a baggage check with strap.

The tags are carried in duplicate, that is, two tags to each number representing the line to which it is to be affixed thus, the sketch signifies Engine Co. 65's line "No. 1."

* * *

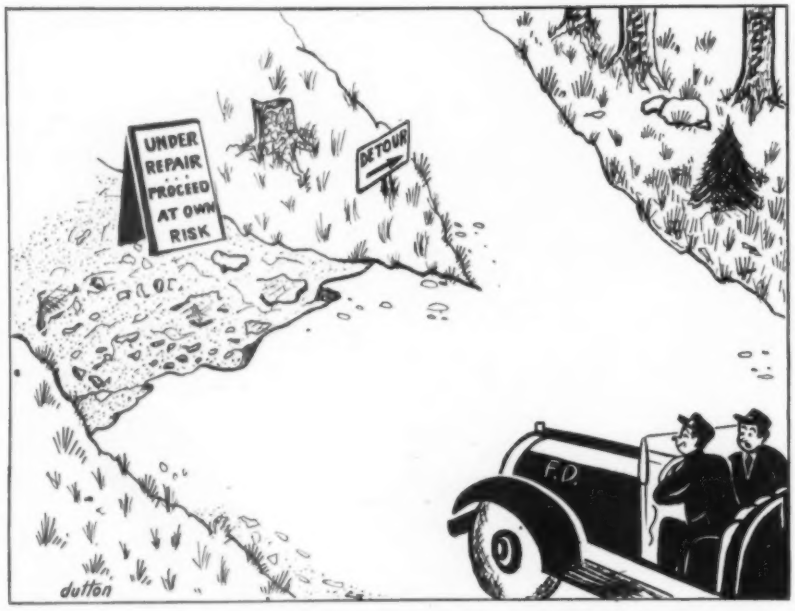
END EXTINGUISHER CONFUSION

It is sometimes easy for firemen to confuse the standard 2½-gallon soda-acid and foam extinguishers, particularly when insufficient light makes it difficult to read the identifying names on the face-plates. A reader suggests that this handicap may be partially solved by painting the top of the foam extinguisher a distinctive, bright color to distinguish it from the other.



Three Ways of Using Offset Extension Tip

FALSE ALARMS



"If We Back Up for a Flying Start, We'll Miss Most of the Rough Spots!"

Confidential

"Good morning," said the switchboard operator. "This is Perkins, Parkins, Peckham and Potts."

"Mr. Perkins, please."

"Who is calling, please?"

"Mr. Pincham of Pincham, Pettam, Popum and Pogg."

"Just a moment, please. I'll give you Mr. Perkins' office."

"Hello, Mr. Perkins' office."

"Let me speak to Mr. Perkins, please."

"Mr. Perkins? I'll see if he's in. Who's calling, please?"

"Mr. Pincham of Pincham, Pettam, Popum and Pogg."

"Just a moment, Mr. Pincham. Here's Mr. Perkins. Mr. Pincham on the line, please."

"Just one moment, please. I have Mr. Pincham right here. Okay with Perkins, Parkins, Peckham and Potts, Mr. Pincham. Go ahead, please."

"'Lo, Joe. How about lunch?"

"Okay, Charlie."

No Privacy After All

The old couple had raised a large family in small quarters, but had always been saving up, against that day when they might enjoy a little luxury. Finally they had enough saved up and went to the city for a thrilling trip alone. They registered at a first-class hotel and were shown to their room.

The old lady gave one look at the elegant surroundings, then her eyes fastened on the twin beds.

"Well," she sighed, "this is certainly a nice room they've put us in, but I had really thought we'd have it to ourselves.

"We all wants you to come to our pahty, Mandy."

"Ah can't, Mose. Ise got to stay home. Ise got a case of diabetes."

"Thais all right, Mandy. Come on along and bring some of it with you. Some of them black boys will drink mos' anything."

Faith

"Hey!" shouted the passing motorist. "Your house is on fire!"

"Ah knows it, stranger," nodded the mountaineer.

"Then why aren't you doing something about it?"

"Ah am," he answered. "Ah'm prayin' fo' rain."

A candidate for the police force was being verbally examined.

"If you were by yourself in a police car, and were being pursued by a desperate gang of criminals in another car doing 40 miles an hour on a lonely road, what would you do?"

"Fifty" promptly replied the candidate.

The snow was falling softly. The commissioner spoke as he tucked the office typist into the car. "Winter draws on."

Typist: "Is it any business of yours whether my lingerie is seasonable?"

Deduction

Sherlock Holmes: "Ah, Watson, I see you have on your winter underwear."

Watson: "Marvelous, Holmes, Marvelous! How did you ever deduce that?"

Holmes: "You forgot your pants."

Tommy, the pipeman complains that his gal is as cold as a pair of old landing gears on a January morning, but he should remember that so is dynamite until you start fooling with it.

"Homer"

AKRON SUCTION HOSE COUPLING

Akron Suction Hose Couplings are furnished with long hose bowls which eliminate any possibility of couplings blowing off even under the most severe working conditions. Channel type long handles furnished on Akron Suction Hose Couplings provide better hand grip and eliminate possibility of breakage.

Always specify Akron when ordering couplings, nozzles and other brass fire fighting equipment to assure your getting the latest engineering developments for most efficient fire fighting service.

AKRON BRASS MFG. COMPANY, INC. • WOOSTER, OHIO

AKRON BRASS

FIRE FIGHTING EQUIPMENT

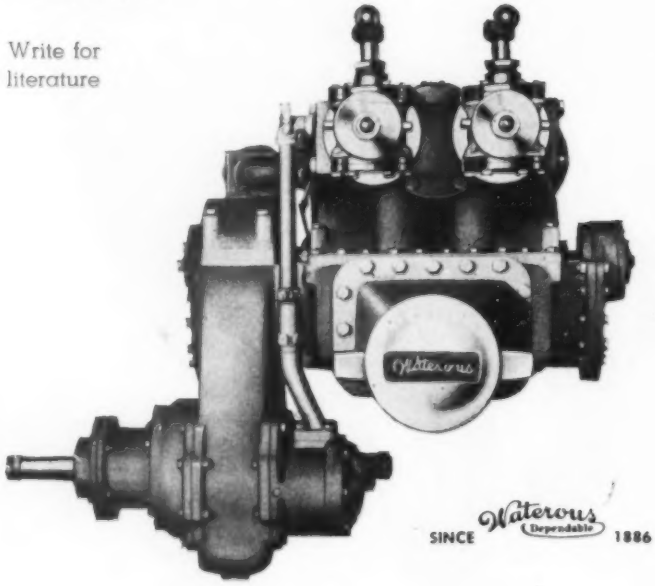
WATEROUS

FUNCTIONAL DESIGN

There's a reason for every single feature of the WATEROUS FIRE PUMP. From the over-all design down to the smallest part—it is built for maximum efficiency, complete dependability, long life, minimum service. 60 years of pump manufacture have created plus values that assure outstanding performance.

WATEROUS Pumps are standard on leading makes of fire apparatus. Specify WATEROUS on your next pumper.

Write for literature



SINCE Waterous Dependable 1886

WATEROUS COMPANY • ST. PAUL, MINNESOTA

Also Manufacturers of WATEROUS Fire Hydrants

FIRE PUMPS

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada, for the month of January, 1946.

Month Ending January 31

Montreal, Que.—Belanger Foundry damaged.
Fort Smith, Ark.—Hardscrabble Country Club, six miles away, destroyed.
Downey, Cal.—All-American super market destroyed.
Norfolk, Va.—S. S. Kresge store damaged.
Cicero, Ill.—Adj. plts. of Borin Art Products Corp. and Western Tire Auto Stores, Inc., damaged.
Oaks Bluffs, Mass.—Metropolitan Hotel destroyed.
Alpena, Mich.—Fraternal Order of Eagles bldg., destroyed.
Charlotte, N. C.—Bldg. occupied by Hicks Roofing Co., Carolina Stripper & Burnisher Co., Taylor's Furniture Store and Holland Furnace Co., damaged.
Norfolk, Va.—French Bakery and two upper floors of notion store damaged.
Rutherford, Tenn.—Portion of business district damaged.
Fairbanks, Alaska—One quarter of the city destroyed. Oil furnace explosion.
Magnolia, Ark.—Feed Mfg. Storage Unit of Arm-La Cotton Oil Co. damaged.
Fort Meade, Fla.—Business block occupied by Inter-County Telephone Exchange, Varn's Pharmacy, Lee's City Cleaners, damaged.
Goulding, Fla.—Peninsular-Lurton Co. destroyed. Overflow of gum rosin.
Rochester, Ind.—Leiters Ford High School, 10 miles west of city, destroyed.
Greensburg, Ky.—Greensburg Tobacco Co. warehouse destroyed.
Pittston, Pa.—YMI bldg. occupied by Annie Laurie Dress Co., Charles De Francisco's drug store and Sierra Diafico Soc. club rooms, destroyed.
West Leechburg, Pa.—Polishing dept. of Allegheny Ludlum Steel Corp.'s West Leechburg plt damaged. Spark from welder's torch ignited paper bales.
Salisbury, Md.—Arcade Hotel and motion picture bldg., occupied also by shoe repair shop, cigar store and pool room, destroyed.
Mansfield, Mo.—Refrigerator cars on St. Louis, San Francisco Railway, two miles northeast, enroute from Kansas City to Birmingham, Ala., damaged.
Newark, N. J.—Factory bldg. owned by Friedman & Kober, hatters' fur mfrs., also occupied by Godwin-Pray, Inc., damaged.
Belen, N. M.—Mercantile store destroyed; adj. Old Chavez Barn destroyed.
Pittsburgh, Pa.—Barges and docks of Union Barge Line Corp., Neville Island, destroyed. Benzine to clean barges at Dravo Co. floated down river, was ignited by spark from welder's torch, at Keystone Sand & Gravel Co., then swept down river for two blocks.
Burlington, Vt.—Manzel dept. store destroyed.
Madison, Wis.—Warehouse of Standard Feed & Seed Co. damaged. Friction in conveyor shaft.
Sturgis, Mich.—Sturgis Lumber & Supply Co. damaged.
Patchogue, L. I.—Three-story frame bldg. housing Swezey & Newins dept. store severely damaged.
Bellaire, Ohio—Washer boat in Ohio River, owned by River Coal Co., destroyed.
Fremont, Ohio—Dunmeyer Garage Co. destroyed.
Pemberville, Ohio—Hobart-Bowlus hardware and dry goods store destroyed; adj. Fred Beeker Dept. Store damaged.
Los Angeles, Cal.—New plastic Corp. plt. destroyed.
Los Angeles, Cal.—Dwelling of Sidney Lanfield destroyed.
St. Louis, Mo.—Newberry five-and-ten-cent store, Maplewood, damaged.
Corry, Pa.—Plt. of J. W. & A. P. Howard Co., Leather mfrs., destroyed.
Racine, Wis.—Power plt. of Lockwood-Thompson Co. destroyed.
Calgary, Alta.—Fitzpatrick bldg. damaged.
New Haven, Conn.—A five-alarm fire of undetermined origin raged through a five-story combined mercantile and storage bldg. in the downtown section. Upper floors of the adj. Chamberlain Furniture Co. were damaged.
Van Port City, Ore.—War Housing Center School destroyed.
New Castle, Pa.—Castle Showcase Co. damaged.

"HIGH HORSEPOWER AT LOW ENGINE SPEEDS MEANS MAXIMUM RESERVE"

For maximum performance reserve specify high rated horsepower and adequate torque output at low engine speeds; then you will be equipped for emergency calls requiring additional service over and above the normal line of duty.

The fire engine featured above is one of 18 Pirsch 1250 Gallon pumpers delivered to City of Los Angeles.

Get the facts from Pirsch.

PETER PIRSCH & SONS CO. KENOSHA, WIS.

"BUILDERS OF AMERICA'S FIRST ALL-POWERED AERIAL LADDER TRUCK AND AMERICA'S FIRST 100' AERIAL LADDER"

BALANCED WEAVE AND CONTROLLED CURING PREVENT EXCESSIVE WARPING AND STRETCHING

In addition to Balanced Weaving of Jackets and Controlled Curing of Linings—both of which mean easier hose handling—every *Streamlined* Eureka Fire Hose offers Smooth Interior Filler Ply for maximum nozzle pressure, Bomb Tested Linings for longer life, and Mildew-Proofing with Formula X.

"For greater protection to life and property"

EUREKA FIRE HOSE

Division of United States Rubber Company

1230 Avenue of the Americas • Rockefeller Center • New York 20, N. Y.

White Bluff, Tenn.—James bldg., Hopewell Memorial Methodist Curch, J. A. Myatt Store, bldg. owned by Ann Smith, R. L. Hunter's barber shop, G. C. Moore's drug store and two dwellings of H. T. Wolfe, destroyed. Acetylene torch.

Wilbur, Wash.—Columbia River Milling Co.'s flour mill destroyed.

Hinton, Alta.—Hinton genl. store, post office, a garage and two dwellings, destroyed.

Arcadia, Cal.—Barn of Santa Anita race track destroyed.

Daytona Beach, Fla.—The Breakers Hotel and the Daytona Beach Hotel destroyed.

Tampa, Fla.—Consolidated Box Co. damaged. Drum of glue exploded.

Marquette, Ia.—Banking office of First State Savings Bank and three adj. store bldgs. destroyed.

Farnham, N. Y.—Farnham District School destroyed. Defective wiring.

Montebello, Cal.—Warehouse, garage and storage shed at Roy F. Wilcox Nurseries, destroyed.

Indianapolis, Ind.—School 63 destroyed.

Portland, Me.—Business block, Woodford's corner, occupied by restaurant, theatre and two stories.

Auburn, N. Y.—Fire destroyed the two-story Polish Falcon home. Blaze believed to have been caused by defective wiring.

Detroit, Mich.—Bldg. housing the H. B. Hamburger Co., a waste material firm, destroyed.

Buffalo, N. Y.—Unterecker-Cook, confectioners and bakers, damaged.

Milford, Ohio—Plant of Feldmen Frozen Food Storage Co. destroyed.

Harriman, Tenn.—Tennessee Products Commissary and Supply House destroyed.

Rutherford, Tenn.—Bldg. occupied by general store, telephone office, Masonic lodge and moving picture show, destroyed.

San Antonio, Tex.—H. E. Butt grocery store No. 4 destroyed.

Ashland, Ky.—Plt. and clay tipple of Big Run Coal & Clay Co., Princess Boyd County, destroyed.

Louisville, Ky.—Garage of Southeastern Greyhound Lines, damaged.

Findlay, Ohio—Midwest Refineries, Inc., plt., southwest, damaged.

Pendleton, Ore.—Inland Empire Frozen Food plt. destroyed.

Logan, Utah—Logan Flour Mill, Cache County, destroyed.

Tadoussac, Que.—Tadoussac Roman Catholic Church damaged.

Winnipeg, Man.—Oddfellow's Temple destroyed.

Brewer, Me.—Brewer municipal garage and two nearby dwellings destroyed.

Portland, Me.—Warehouse of Maine Hardware & Plumbing Co., Logan Paint Shop, Loose-Wiles Biscuit Co. plt. and dwelling of James Bonnvie, destroyed.

Detroit, Mich.—Bldg. occupied by Ajax Mfg. Corp. and Michigan Chandelier Co., destroyed.

Gaylord, Minn.—Business block, occupied by Pierce variety store, Koltze grocery, Heidmann drug store, municipal liquor store and others, damaged.

Steelville, Mo.—Lumber yards of Robert Judson Lumber Co. and Curley Hotel destroyed. Furnace boiler exploded.

Elizabeth, N. J.—Production bldg. of Apex Chemical Co., Inc., destroyed.

Eugene, Ore.—Crest Dell Restaurant destroyed.

Garland, Tex.—Elementary school bldg. destroyed.

Grand Anse, N. B.—Roman Catholic Church damaged.

Rimouski, Que.—St. Louis Hotel, damaged.

Syracuse, N. Y.—Spencer Folding Box Corp. plt. destroyed.

Springville, Utah—Stable-haybarn of J. W. Grant destroyed.

Olympia, Wash.—Midfield Packing Plt. destroyed.

Nelson, B. C.—W. V. Powell Lumber Co. destroyed.

New Haven, Conn.—Factory-loft bldg. damaged.

Cleveland, Ohio—Dance hall at Puritas Spring Amusement Park, destroyed.

Medford, Ore.—Sales Commissary at Camp White, destroyed.

Rutledge, Tenn.—Courthouse, Grainger County, destroyed.

Toronto, Ont.—George Stambler Co. damaged.

Toronto, Ont.—McEachern Motor Exchange and McEachern Electrical Industries damaged.

Chicago, Ill.—Fish Furniture Co. damaged.

Peoria, Ill.—Black Hawk Motor Transit Co. garage damaged. Gasoline tank explosion.

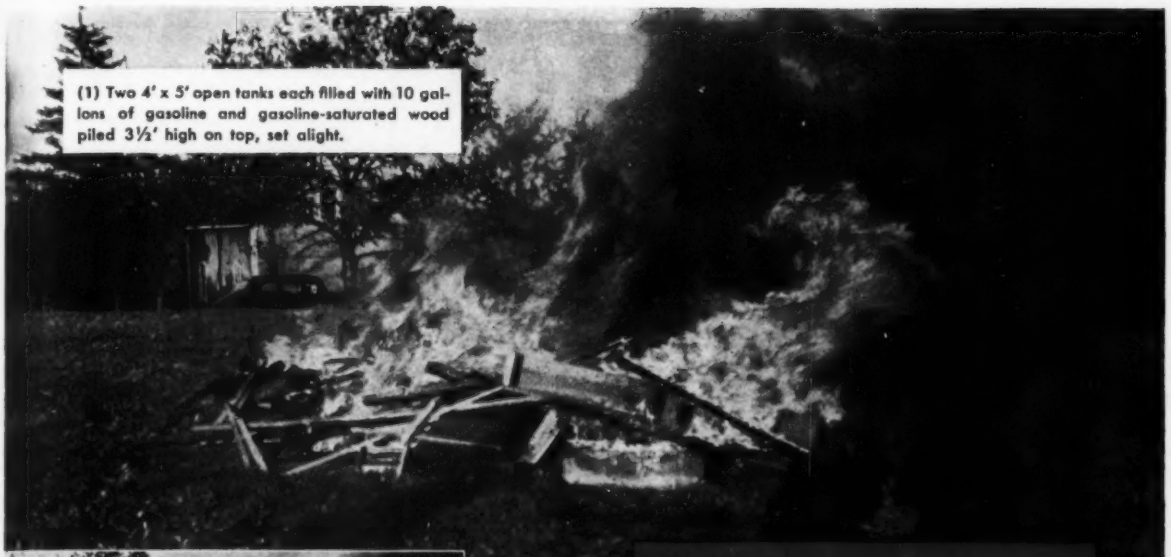
Lancaster, Pa.—Lee's tobacco warehouse damaged.

Orangeburg, S. C.—Sheridan School, local junior high, destroyed.

Campbellton, N. B.—H. A. MacDonald bldg. and five adj. establishments, destroyed.

Fairhaven, Mass.—Centre Methodist Church destroyed.

Newark, N. J.—Bldg. owned by Israel Richer, who operates tailoring firm and also occupied by tailoring business of Gestner Yanowitz, damaged.



(1) Two 4' x 5' open tanks each filled with 10 gallons of gasoline and gasoline-saturated wood piled 3½' high on top, set alight.

(2) Within 10 seconds nearer, part of fire is subdued.

(3) At end of 35 seconds, fire is extinguished.

(4) Operator with 25 GPM FIRE-SNUFFER NOZZLE.

StrangleAIR FOAM AND FIRE-SNUFFER NOZZLES

War-Proved Fire Extinguishing Agents Give You Faster and More Effective Fire Fighting

StrangleAIR FOAM will isolate, subdue and extinguish fires quickly and effectively. A coating will cling to any surface, horizontal or vertical, and last for hours, or until fire has been extinguished and danger of re-ignition removed. StrangleAIR is clean, white, odorless, non-toxic. It will not injure paint, woodwork, furniture or carpet. StrangleAIR prevents formation of noxious or dangerous fumes and eliminates flashbacks. Cut fire losses and give greater protection to fire fighter with StrangleAIR.

FIRE-SNUFFER NOZZLES, bright nickel finish with red trim, are easy to clean and easy to handle. These units are specially designed to deliver foam with uniform consistency. They are available in standard sizes from 2½ GPM to 250 GPM.

StrangleAIR FOAM and FIRE-SNUFFER NOZZLES can be obtained through fire appliance supply houses.

For prompt, complete information fill out coupon and mail today.

Please send me Illustrated Bulletin 251 G.

Name .....

Fire Dept. .....

Address .....

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StrangleAIR FOAM · FIRE-SNUFFER NOZZLES

AMERICAN DIE & TOOL COMPANY, INC., East Reading, Pennsylvania

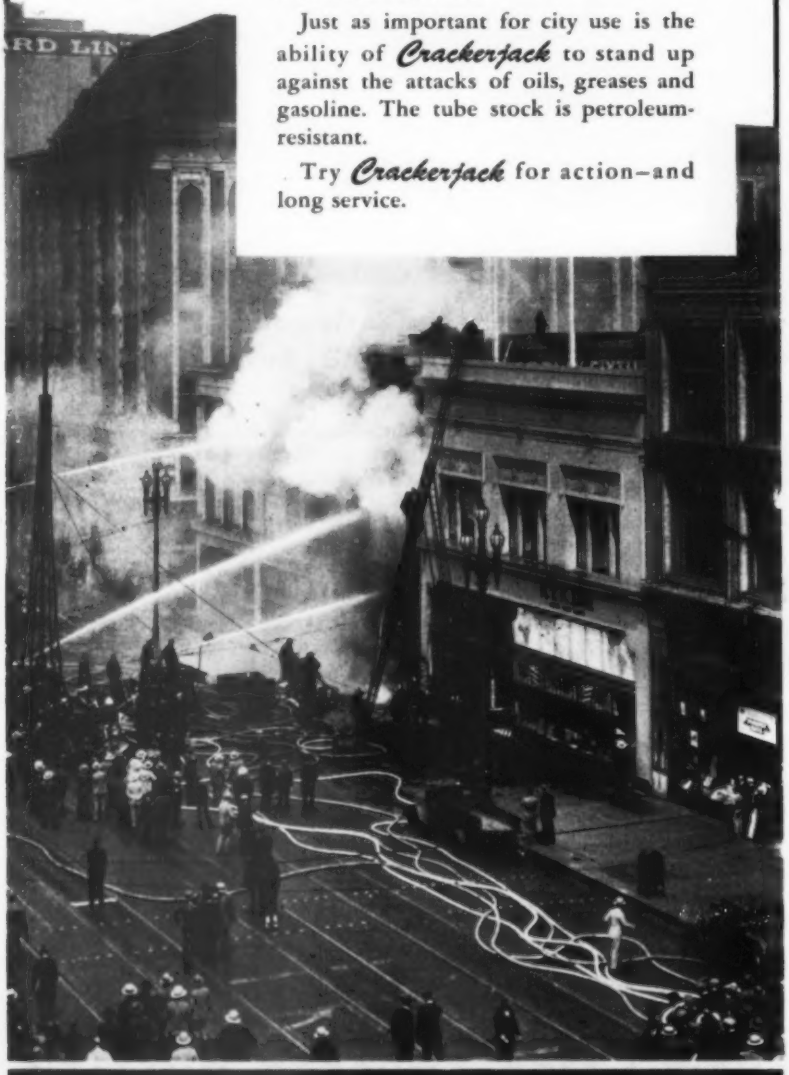
CRACKERJACK for action

Crackerjack Fire Hose is easier handling so lines are laid and in use in the shortest possible time.

The tube in *Crackerjack* is pliable and adheres well to the inner jacket. The outer jacket is so applied that balance is retained. As a result, *Crackerjack* behaves well in action.

Just as important for city use is the ability of *Crackerjack* to stand up against the attacks of oils, greases and gasoline. The tube stock is petroleum-resistant.

Try *Crackerjack* for action—and long service.



The AMERICAN RUBBER Mfg. Co.
Park Avenue and Watts Street • Oakland, Calif.

Auburn, N. Y.—Bldg. occupied by fur and women's wear store and clubrooms for CIO unions, destroyed.

Greenport, N. Y.—Office bldg. and workshop of Greenport Shipyard & Construction Co., destroyed.

Dayton, Wash.—Columbia County Grain Growers Elevator destroyed.

Juneau, Alaska—Block occupied by Coliseum Theatre and others, destroyed.

Chicago, Ill.—Joslyn Mfg. Co., coating materials mfrs. destroyed.

Chicago, Ill.—Vacant bldg. near center of Chicago stock yards, destroyed.

Atlanta, Ga.—All-Metal Cooler Corp. plt. destroyed.

Elizabethtown, Ky.—Gymnasium of Elizabethtown High School destroyed.

St. Albans, Me.—MacNichols Bros. woodworking factory destroyed.

St. Johnsbury, Vt.—Odd Fellows Block, occupied by Hovey Dept. Store; office of Dr. George How; lumber office of Goodrich Daniell; Production Credit Assn., and Independent Order of Odd Fellows, destroyed.

Dixon, Ill.—Lakeshire Marty cheese plant of Borden Co. destroyed.

Ayer, Mass.—Ayer Ice Co. plt. destroyed.

Gardner, Mass.—Two bldgs. of Mahoney Chair Co. destroyed. Overheated motor operating fans in dry kiln.

Charleston, W. Va.—Ten office and whse. bldgs. were destroyed in fire which ruined an entire block in the heart of the business section. The fire started in a bldg. occupied by Rose City Press on Virginia Street and spread westward almost to Capitol Street, the main business thoroughfare.

Columbia, Tenn.—A business district fire started in a drug store and consumed the 100-year-old Masonic bldg. and several stores.

Picher, Okla.—Six bldgs. in the heart of the business district were destroyed. Businesses involved were the Plaza Theatre, two beer parlors, a barber shop and the Roy Walker drug store.

Guelph, Ont.—Holman Luggage, Ltd., destroyed.

Jonquiere, Que.—Ten stores, business section, destroyed.

Chicago, Ill.—St. Francis of Assisi school and gymnasium, damaged.

Linton, Ind.—Whse. of Indiana Coal Co. destroyed.

Burlington, Ia.—St. Paul's Catholic Church damaged.

North Platte, Neb.—Dryden drug store of Dale Dryden destroyed; J. C. Penny Co. and Mac's hardware stores damaged.

Carwood, Ky.—Public school bldg. destroyed.

Sedalia, Mo.—Ilgenfritz bldg., downtown district, occupied by J. C. Penny store and others, damaged.

Oklahoma City, Okla.—Main hangar at Tinker Field destroyed.

Rockwood, Tenn.—Commerce & Brown Bldg., occupied by stores and apts., destroyed.

Douglas, Ga.—OK Tobacco Warehouse destroyed.

Evansville, Ind.—Whse. and three other bldgs. at Evansville shipyards, destroyed.

Stockton, Cal.—Mess, recreation and barracks bldg. for German prisoners of war, at Stockton Ordnance Depot, San Joaquin County Fair Ground, destroyed.

Troy, N. Y.—Business-apt. bldg., North Troy, damaged.

Corapolis, Pa.—Albert Bldg. destroyed.

Erie, Pa.—Plant of Kondu Corp. destroyed.

Milwaukee, Wis.—Bldg. occupied by stores and apts. destroyed.

Peekskill, N. Y.—Six bldgs. in heart of business district destroyed.

Tulsa, Okla.—Plant of Barnes-Manley Laundry and Dry Cleaning Co. destroyed.

Hopewell, Va.—Plant of Victory Dry Cleaning Co. destroyed.

Lamaque, N. B.—Post office, Paul Chiasson's store and Lamaque Co-operative Store damaged.

Riverdale, Ill.—Plt. of Chicago Construction Equipment Co. destroyed.

Madison, Mo.—Fredman Exchange Furniture Mart and Schermer Bros. grocery destroyed.

San Bernardino, Cal.—Claypool & Co. poultry and stock feed plt. damaged.

Philadelphia, Pa.—Business bldg. occupied by Greefield Luggage Co. and Saltzon Drapery Co. destroyed.

Charleston, S. C.—Recreation Bldg. at Charleston Naval Base destroyed.

Fort Collins, Colo.—Country home owned by F. A. Murke destroyed. Defective oil furnace.

Atlanta, Ga.—Machine shop and store shed of Gill Equip. Co. destroyed.

Buhl, Ida.—C. C. Andersjon Dept. store destroyed.

Evansville, Ind.—Kiln, whse. and main plt. of Globe Rosse World Furniture Co. damaged.

Spillville, Ia.—Garage of Mary Klimesh and blacksmith shop of John Swehla, destroyed.

Ogallala, Neb.—Airplane hangar of Central States Aircraft, Ogallala municipal airport, destroyed.

Washington, D. C.—Home of Col. M. Robert Guggenheim damaged; two valuable paintings and furnishings destroyed.

THE MAN WHO CHEATED DEATH

"Manufactured Under U. S. Patents and Applications"

Who is he? You'd scarcely recognize his name, but he's a fire chief with a heart, a mind and a determination to protect his men.

He knows that hundreds of firemen die each year because they do not hear the warnings to get out; that, unaided, the human voice is too weak to rise above the manifold noises at a fire.

Now, with the Guided Radio Portable Megaphone, his voice—magnified 2500 times—rises powerful and clear; his men are alerted instantly . . . warned against tottering walls and sagging roofs. He has cheated death.

* * *

Chief, let Guided Radio Portable Electric Megaphones serve you and save your men. They're light in weight; equipped with internal storage batteries and charger. Also available—Guided Radio's dry battery model.

Write for Illustrated Circular 11

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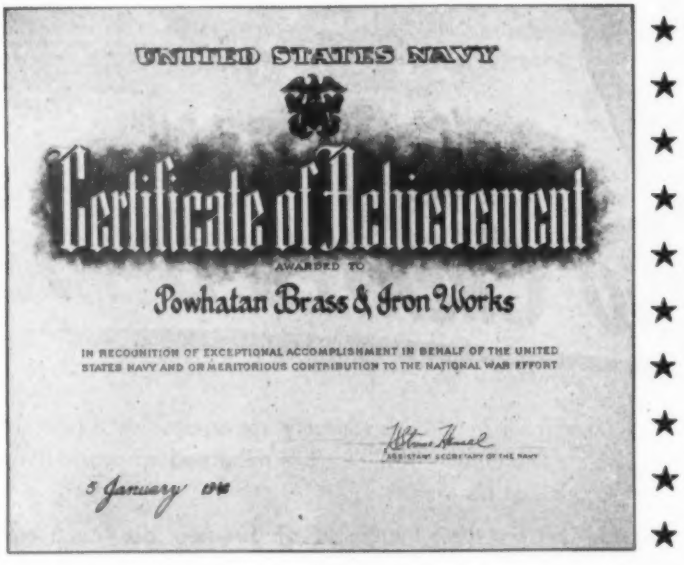
ELECTRIC MEGAPHONE

GUIDED RADIO CORPORATION, 161 6th Ave., New York 13, N. Y.

for Exceptional Accomplishments



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AWARDED TO

Powhatan Brass & Iron Works

IN RECOGNITION OF EXCEPTIONAL ACCOMPLISHMENT IN BEHALF OF THE UNITED STATES NAVY AND OR MERITORIOUS CONTRIBUTION TO THE NATIONAL WAR EFFORT

5 January 19[illegible]

We are justifiably proud of this certificate from the Navy Department for our efforts in their behalf during the war. In World War I we received a similar citation from the War Department. In the fire field we can be just as proud of our accomplishments. For years we have supplied hundreds of fire departments with nothing but the best in brass goods.

Today's products are better and more varied than ever. We will be glad to hear from you.

POWHATAN BRASS and IRON WORKS
RANSON, WEST VIRGINIA
Phones 93 & 94 Charles Town West Virginia
Established 1892

Echoes of the War

By Roi B. Woolley

Flame Warfare Important in Future Wars

According to Col. W. A. Copthorne, chief chemical officer for General Douglas MacArthur, in future wars flame warfare will make the incendiary raids on Japanese cities "seem like campfires by comparison."

Flame warfare, "with only a fraction of its potentialities employed against Japan, approached the atomic bomb as a convincing argument against future wars," he said. "Studies of incinerated Japanese cities and incendiary attacks against ground forces indicate that the destructive effects of large-scale flame warfare are only now beginning to be appreciated."

Copthorne said that more than 12,000 flame-throwers filled with napalm were fired into Japanese pillboxes and bunkers between Pearl Harbor and V-J Day, in addition to thousands of gallons of napalm dropped aerially. Napalm was developed by Dr. Louis F. Fieser, Harvard cancer expert, to burn crabgrass from his front lawn.

* * *

Extent of English Church Damage

English churches and cathedrals suffered less war damage than had been expected, December reports from the Central Council for the Care of Churches indicate, although three cathedrals and many of London's most famous parish churches were severely damaged.

Medieval churches suffered least damage, since most of them are far from big cities, the report says. Greatest damage was to churches of the English Renaissance period, including many built by Sir Christopher Wren and his followers after the great London fire of 1666.

Westminister Abbey was not damaged seriously although the area around the famous edifice was heavily bombed. Exeter Cathedral was badly damaged but the ancient glass was kept safely. A whole new church will have to replace celebrated Coventry Cathedral. Famous St. Paul's Cathedral, London, suffered limited damage, despite the fact that it was almost entirely surrounded by flames in the blitz.

* * *

Hit-Run Aviator!

Out in Coeur D'Alene, Idaho, sheriff's officers sought a "hit-run" culprit of a new type. A trainer type airplane struck telephone and electric power lines and crash landed into a field, disrupting telephone service for two hours and imposing a one-hour blackout in some homes.

Pausing only briefly at the scene of the accident, the plane took off again before officers had a chance to check the pilot's license. Well, well, exceeding the speed limit, no doubt!

* * *

Considerable Blow-Off!

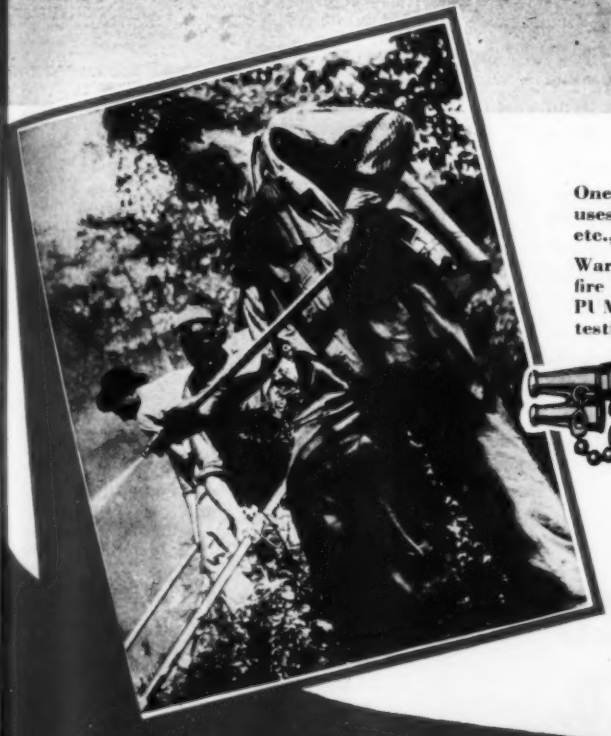
As part of a program to blow up 500,000 tons of Japanese munitions, U. S. Sixth Army troops touched off 1,500 tons of explosives early in December, wiping out the tip of a small island.

The operation required the removal of 300,000 persons from the area including patients from the Army's 308th General Hospital.

"Indian Fire Pumps in no time at all had the fire under control—"

THAT'S WHAT FIRE CHIEF **R. H. CORBETT**
OF NEW MATAMORAS, OHIO *says*

Chief R. H. Corbett



D. B. Smith & Co.
Utica, N. Y.

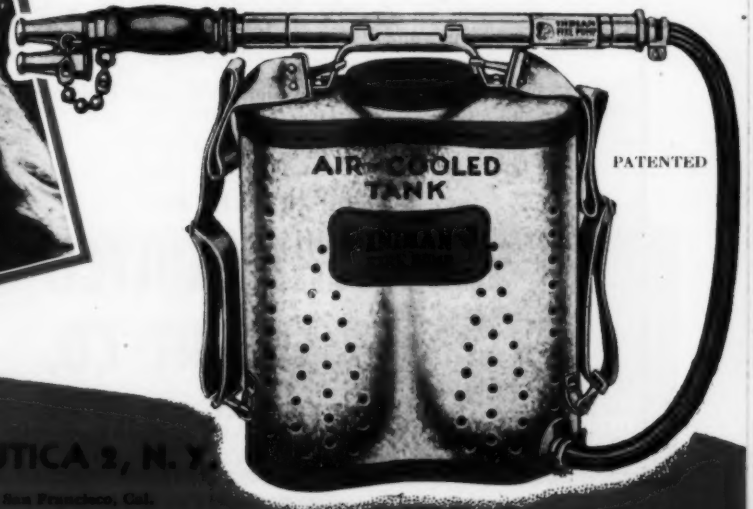
I never had a chance until yesterday to use the INDIAN FIRE PUMPS I bought from you some time ago. Yesterday we had a fire in the country that just about burned everything there was. We took the INDIAN FIRE PUMPS out to it and in no time at all, we had the fire under control and that is why I am sending you an order for more INDIAN FIRE PUMPS.

Yours truly,
R. H. Corbett,
Fire Chief and Marshal

Use INDIAN FIRE PUMPS for Inside and Outdoor Fires

One of the great advantages of the INDIAN FIRE PUMP is the many uses it has for fires in buildings and interiors, on roofs, chimneys, etc., and also outdoor fires in fields, leaves, rubbish and wooded areas.

Warm weather is just around the corner. Prepare now for summer fire hazards by equipping with an ample supply of INDIAN FIRE PUMPS! Send for catalog giving full information and copies of testimonials from users.



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Pacific Coast Branches:
Hercules Equipment & Rubber Co. 415 Brannan St., San Francisco, Cal.

J. G. Davis Co. 317 E. Third St. Los Angeles 13, Cal.

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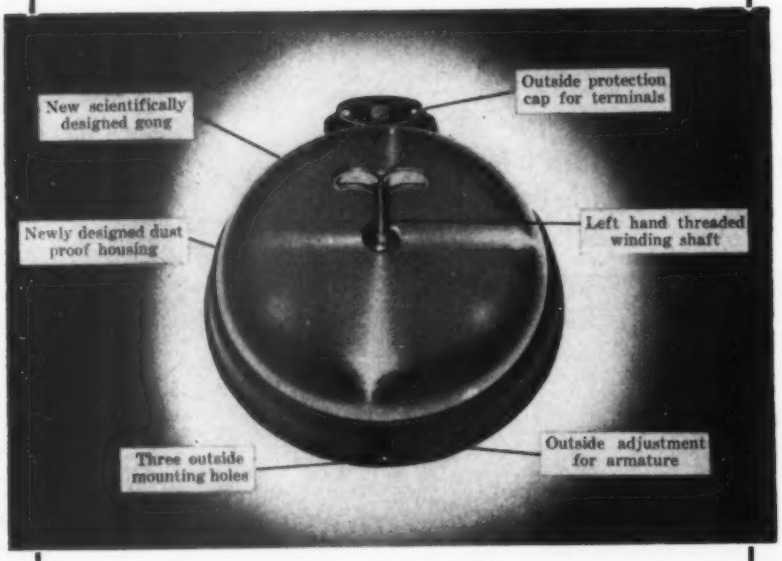
The Conwhit Co. Klamath Falls Oregon

Mill & Mine Supply 2780 4th Ave., So. Seattle, Wash.

• ELECTRO-MECHANICAL GONG •


New scientifically designed gong
Outside protection cap for terminals
Newly designed dust proof housing
Left hand threaded winding shaft
Three outside mounting holes
Outside adjustment for armature

MODEL 66 GONG

In presenting the 10" ELECTRO-MECHANICAL GONG, MODEL 66 is backed by 20 years experience in the fire alarm field. Model 66 has been designed and tested over a long period of time to give years of dependable, trouble free service. The newly designed gong gives better tone and penetration. The cast anodized aluminum alloy dustproof housing assures you of long mechanical operation. The three outside mounting holes make ease of installation, and by removing the terminal cap, terminals are exposed for quick connection. The exterior armature adjuster eliminates the old method of disassembling the bell to make adjustments. All movable parts are journaled in self-lubricating bearings. The MODEL 66 GONG is the best audible fire alarm signal available. Interchangeability of parts, high insulation, with large mainspring capacity, lend it further prestige.

Inquiries will be promptly answered, your problems will be ours.

MANUFACTURED BY

SOUTHERN SWITCH & SIGNAL CO.

SHREVEPORT, LOUISIANA

The first blast of 100,000 pounds of picric acid stored in a cave near the island's tip produced a smoke cloud 2,500 feet high. The following two blasts amputated the tip entirely.

* * *

Bad Neighbors

Removal of fifteen Liberty ships loaded with tons of live ammunition in Delaware Bay was urged in December by the director of the Board of Freeholders of Cape May County, N. J.

The ships were reported midway between Lewes, Del., and Cape May. Immediate separation of the vessels and subsequent unloading or moving was urged upon members of Congress.

* * *

Hot Off the News Ticker

Leaving a December meeting at Ross-on-Wye, England, parttime firewomen of the Women's Volunteer Service kept a fire under control until the fire department arrived. . . . In Glasgow, Scotland, the great Hampden Stadium which seats 103,000 was swept by a spectacular fire December 26 which destroyed administration offices, dressing rooms, press box, restaurant and the central portion of grandstand. . . . Eight hundred thousand ounces of opium, confiscated by Chinese after surrender of Japs in Peiping were burned in a public bonfire. . . . Called by the Navy "second only to the atomic bomb" in helping win the war, is a radio-operated fuse the size of a pint bottle, which played a big part in stopping Jap suicide attacks and knocking out "buzz bombs" against London. . . . Charred bodies of three American Military Government officers were found in the ruins of lodgings at Passau in Eastern Bavaria. "Top Secret" investigations are under way to determine cause. . . . The Nazi V-2 rocket bomb attained speeds of more than 2,500 miles per hour and altitudes exceeding sixty miles. . . . An empty shell of the type used in Bazooka guns found in a Brooklyn apartment's incinerator and reported to police as an "unexploded bomb" gave members of city's bomb squad hectic few minutes last month. . . . Yes, in December they were still using minesweepers to escort American troopships carrying men through Straits of Dover. Hundreds of deadly mines blown from moorings by gales have been swept up in shipping lanes. . . . One of costliest December fires was that which destroyed Bethlehem Steel Company's machine shop at Bethlehem with loss of over $2,000,000. "Short circuit believed to have set off flames" sez report yet shop "was shut down shortly after V-J Day". . . . By the end of the 1945 ninety-three vets had returned to New York Fire Department for duty. . . .

It is revealed in London that every German rocket bomb that fell on that city during the war damaged an average of 600 to 700 family dwellings: each flying bomb is said to have injured about 400 dwellings. The London, (Eng.) census of June 30, 1944 showed that 462,000 persons slept regularly in public shelters. . . . In Tongres, (Belgium) pranksters set a gigantic bonfire in scores of crates of highly concentrated fumigating smoke in Army stores, forcing the evacuation of many residents and causing heavy damage. . . . The Army's mine detector was used, it's said, in the search for the cornerstone of the White House, which has been lost sight of since the renovating of the

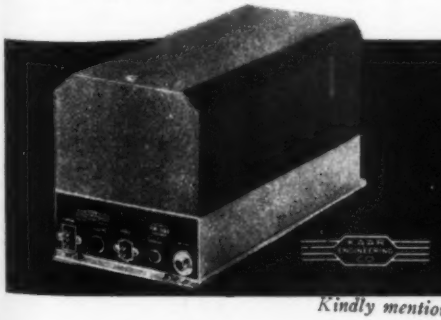
"I can even recognize your voice!"

At last! A mobile FM receiver with a NATURAL voice quality . . . the FM-39X, *engineered* by KAAR!

Here is the FM receiver that users of emergency communications have waited for so long! A receiver that brings in the low as well as the high tones, rounding out the voice so that you can readily recognize who is speaking!

The FM-39X is a fitting companion for the remarkable 50 and 100 watt *INSTANT-HEATING* KAAR FM mobile transmitters which were recently announced. The over-all voice quality through the KAAR transmitter and receiver is such a distinct improvement that it will be a revelation to anyone who has had previous experience with FM radiotelephones. In fact, decidedly finer voice quality is obtained even when this new receiver is used with other makes of FM transmitters.

The receiver has two r. f. stages instead of the usual one, resulting in better signal-to-noise ratio and greater discrimination against spurious signals. For full details, write for Bulletin 24-45.



KAAR ENGINEERING CO.

PALO ALTO • CALIFORNIA

Export Agents: FRAZAR AND HANSEN, 301 Clay St., San Francisco, Calif.

Engineered by the Pioneers of INSTANT HEATING FM and AM transmitters

FOG AT 60 LBS.
The UNIVERSAL NOZZLE

COMBINATION FOG AND SOLID STREAM

SOLID STRAIGHT STREAM OR FOG FROM 1°-150° CURTAIN
FOG AND STRAIGHT STREAM TOGETHER, OR COMPLETE SHUTOFF
SOLID STREAM OR FOG INDEPENDENTLY CONTROLLED
DESIGNED AND ENGINEERED FOR UNIVERSAL APPLICATION
ALL BRONZE CONSTRUCTION — PRECISION MACHINED

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HOWE Can Supply Any Body Style Desired.

HOWE FIRE APPARATUS CO. Established 1872 1402 West 22nd Street Anderson, Indiana

structure after it was burned by the British in 1814. Plainly visible inside the protective stone veneer of the north facade is charred limestone trimming of the original building. Repair experts are proceeding on the theory that the original cornerstone may contain a metal box filled with documents that would be considered priceless. . . . It is revealed by the trial of the Nazi war criminals that as early as 1938 Goering planned the bombing of New York City. . . . Metropolitan New York newspapers are advertising a *"safe streamlined version of the Army's fire-tongued flame gun" for only* $22.50. Ads say: *"Its 2000-degree flat flame will thaw your frozen pipes, burn your rubbish and tree stumps, clear driveways, fire incinerators"—and although they do not say it, mebbe be the cause of not a little post-war work for busy firemen.* . . . In December J. Edgar Hoover, director of the FBI, told police chiefs that wartime juvenile delinquents are spearheading an army of 6,000,000 law breakers in a new crime wave which threatens to rival the gangster era of the "Roaring Twenties." Although he didn't say so, this will doubtless up the number of set fires and false alarms. . . . Nearly 50,000,000 Chemical Warfare Service incendiary bombs were dropped in World War II. . . . Warning of things to come: in late fall, a plane described as "top secret" by the Navy crashed into a field in St. Louis County killing the pilot. No details of the accident were ever released. On January 18 this year a radio controlled plane went haywire, got out of control and disappeared, after radio alarms alerted police and citizens throughout the Metropolitan New York area.

Persons in the News

Commander Hughes Honored

Harold K. Hughes, who was advanced from Commander to Captain, CEC, USNR, and who served for most of the war as head of the Fire Protection Division, Bureau of Yards and Docks, has been cited by the Chief of the Bureau, Rear Admiral B. Moreell it was recently learned.

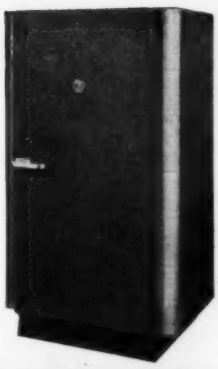
The citation pointed to the Captain's service in World War I and the sacrifice he made in accepting the post as head of the Bureau's fire protection program, and it concluded: "In selecting you for this important task you have clearly demonstrated through five years of loyal and untiring service that the Chief of the Bureau's choice was amply justified and that the prestige of the Bureau has been enhanced through your distinct contribution to the winning of the war. As Chief of the Bureau of Yards and Docks and Chief of the Civil Engineer Corps of the Navy, it is with keen sense of personal satisfaction that I thank you for an outstanding achievement."

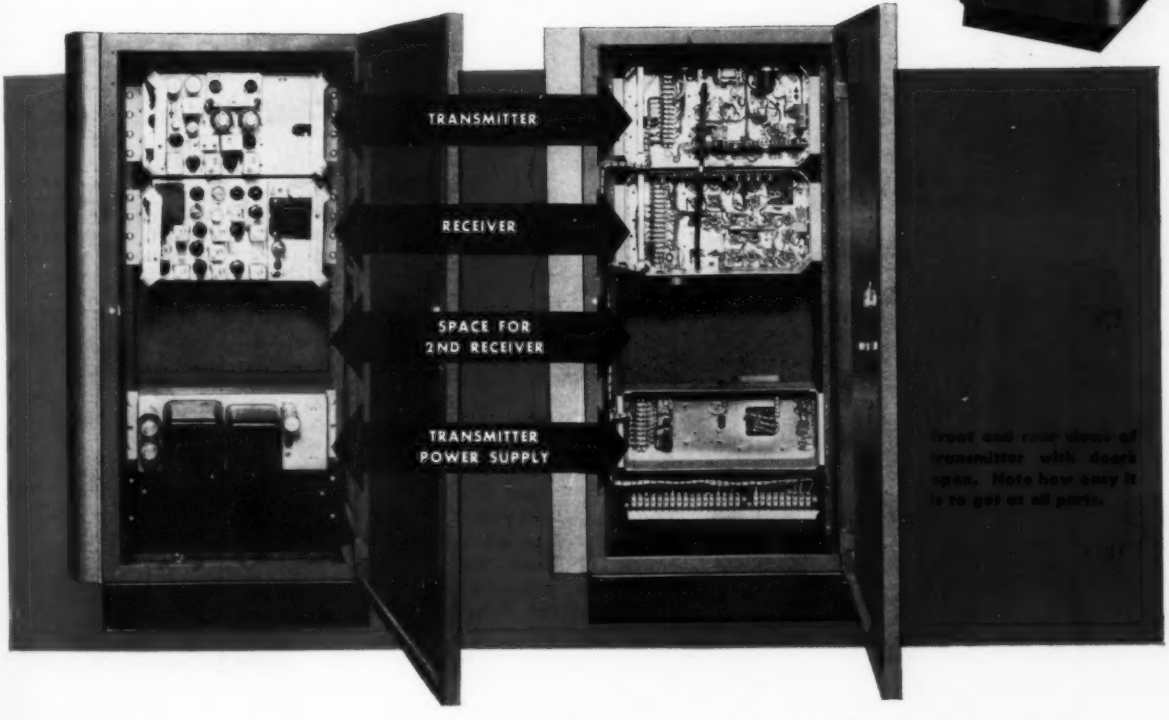
Former Chief Green Honored

Edward T. Green, former chief of the Steubenville Fire Department, who retired in July of last year after over forty-two years of service, was honored at a testimonial banquet in December at the Masonic Temple, Steubenville, sponsored by the Ohio Fire Chiefs' Association.

NOW READY

the New RCA 60-Watt FM Transmitter for Police and Fire Departments





Front and rear views of transmitter with doors open. Note how easy it is to get at all parts.

ATTRACTIVELY STYLED—Large-quantity manufacture of these transmitters for station-house use, makes it possible to supply these exceptionally strong, de luxe cabinets even with relatively low-priced systems. It will help give your radio station a "professional" look usually associated only with larger installations.

TAKES LITTLE SPACE—The transmitter cabinet is unusually compact—measures only 49 inches high, 28 inches wide, and 20½ inches deep. You need less than 4 square feet of installation space. Also, there is plenty of extra room in the cabinet to mount two receivers or other equipment.

EASY TO OPERATE—*All* tuning adjustments can be made quickly from the front of the transmitter. Many stations find it convenient to place the transmitter next to a desk and locate a control unit and handset microphone on the desk.

SIMPLE TO SERVICE—Full-length front and rear doors and vertical- rather than horizontal-chassis construction give ready access to all parts and connections for quick servicing.

ECONOMICAL—First costs, installation costs, and operating costs are low. All components are carefully selected to assure highest quality. Only 11 tubes are used—all inexpensive, easy-to-get types.

OUTSTANDING PERFORMANCE—*Frequency range:* 26 to 42 mc. *Audio characteristic:* 15 db rise from 500 to 3000 cycles with rapid cut-off after 3000 cycles. *Modulation:* ±15 kc for 100% modulation. *Frequency stability:* ±.01% from -30 to 50 C. *Distortion:* Less than 10% at 500 cycles with ±15 kc swing. *Modulation threshold limiter:* 20 db control. *Spurious emission:* At least 60 db down over entire range.

WRITE FOR NEW BULLETIN. Contains data on RCA's complete line of FM equipment for 1-, 2-, or 3-way communications systems. Radio Corporation of America, Dept. 33-B, Communications Equipment Section, Camden, N. J.

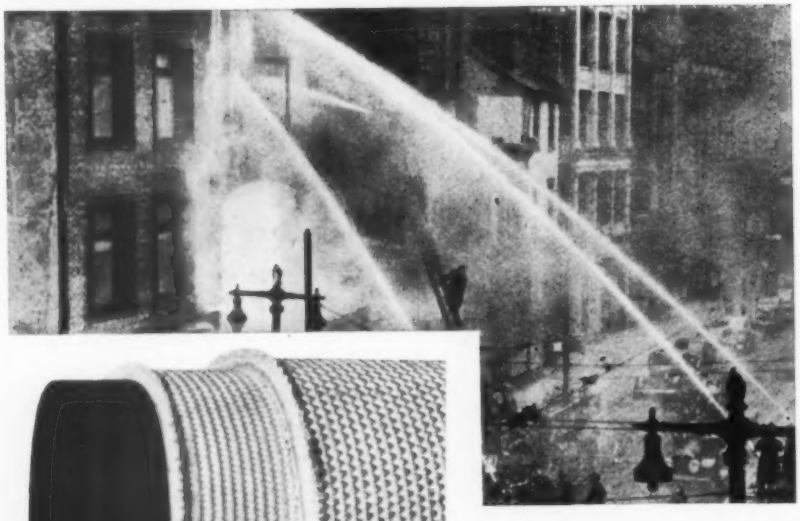
COMMUNICATIONS EQUIPMENT

RADIO CORPORATION of AMERICA

ENGINEERING PRODUCTS DIVISION, CAMDEN, N. J.

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

FIRE strikes swiftly!



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quality Easy-Fold Construction Fire Hose as your regular equipment, you are sure of having fire hose that will stand the pressures when action gets at fever heat.

Whether you need 50 feet or 50,000 feet, Quaker is ready to serve you promptly.

Better check your fire hose today. Then let Quaker supply you with a quality fire hose for as many feet as you need to give you adequate protection.

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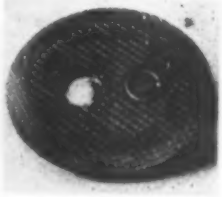


HOSE PIPE INLETS

All mercantile buildings should be protected with Hose Pipe Inlets for immediate access to basement areas in order that hose streams and cellar nozzles may be placed in immediate, effective operation.

Manufacturer and distributor of fire apparatus and appliances. specialists in brass goods.

ARMINGTON MANUFACTURING CO.
SYCAMORE, ILLINOIS

Over ninety guests, representing the local organizations, city administration and thirty-five fire departments, attended the banquet, at which Michael J. Cody, Green's successor, served as chairman.

Chief Green, who retired due to ill health, had one of the longest records of continuous service in the state—second only to that of Chief James J. Granger of Cleveland with fifty-two years to his credit.

Among those who lauded chief Green's record were C. W. Ogburn of Columbus, president of the state fire chief's association, John J. Dougherty, former chief of Lorain, Harry Krieger of Columbus, representing the Ohio Inspection Bureau and Mayor George Floto.

Chief Mattingly Dies in Action

Assistant Fire Chief Bernard S. (Bernie) Mattingly, 66, veteran member of the Nashville, Tenn., Fire Department since 1914, died following a heart attack while directing fire fighting operations in Nashville. He was rushed to a hospital but failed to respond to treatment.

Assistant Chief Bernard S. Mattingly

The fire destroyed a large two story building and Chief Mattingly, who responded on the first alarm, took his men into an alley to get at the flames, where he was smitten.

He was appointed substitute fireman in 1914, in time to fight East Nashville's great fire. He was promoted to lieutenant, then captain, and in 1939, to Battalion Chief. In 1943, he was named Assistant Chief.

Chief Demonbroun, dazed by the sudden death of his aide, said "We have lost a mighty fine man." Chief Mattingly was a member of the International Association of Fire Chiefs, the International Association of Fire Fighters, Vice President of the Tennessee Firemen's Association and vice president of the Firemen's Benefit Association. He is survived by one son, two sisters, two brothers and two foster sons.

Ex-Chief W. H Joynes Dead

William H. Joynes, 90-year-old former chief of the Richmond, Va., Fire Department, died January 9, at his home in that city.

He retired as chief of the Fire Department on Oct. 1, 1940, after serving in that capacity since 1908. Chief Joynes

Again — THE HARRISON, NEW JERSEY FIRE DEPARTMENT CALLS ON Ahrens-Fox!

Department of Fire

TOWN OF HARRISON

I. A. F. C.

ANDREW T. CALLAHAN
CHIEF

To whom it may concern:

The Harrison, N.J. Fire Department purchased its first piece of automotive fire apparatus in the year 1916, it being an Ahrens-Fox Pumping Engine of the Piston Type. Since that time four more Ahrens-Fox Piston Pumpers have been purchased by Harrison, all of which have proven their high efficiency under the most severe conditions of fire fighting service.

The up-keep of these pumpers has been very nominal and service given has been 100%. I can highly recommend the Ahrens-Fox Piston Pumping Engine as the most efficient type for the highly varying requirements of modern fire fighting service, capable of delivering great volumes of water at high pressures.

Harrison, N.J. has purchased five (5) 1000-gallon-per-minute pumping engines of the piston type including the new Ahrens-Fox twin triple combination Piston Pumper, which is now being delivered to the Harrison Fire Department this month, January, 1946.

Respectfully yours,
Andrew T. Callahan
Chief of Department

AHRENS-FOX

BACK in 1916 the Fire Department of Harrison, N. J., made its first purchase from Ahrens-Fox. In January, 1946, the same Fire Department received its sixth piece of Ahrens-Fox apparatus. This latest addition to Harrison's fire fighting equipment is our Model H-T-1000 Gallon Per Minute Twin Triple Piston Type Pumping Engine, Hose Car and Booster apparatus. Harrison has also purchased from Ahrens-Fox an 85-foot aerial ladder truck. Before you make another investment in fire apparatus, be sure to find out what Ahrens-Fox is offering you today.

THE AHRENS-FOX FIRE ENGINE CORP. – CINCINNATI 12, OHIO

A PUMP FOR EVERY PURPOSE

became a member of the Fire Department Dec. 27, 1880, and his first assignment was as a private with Engine Company No. 5.

He remained a member of Engine Company No. 5 for 25 years. He became captain of No. 5 on Oct. 1 1906. Four and a half months later, on Feb. 15, 1907, he was appointed assistant to the late Chief George Shaw.

Chief Shaw died in 1908 and Mr. Joynes was appointed his successor. Mr. Joynes was an early convert of mechanized fire departments and it was during his regime that motor driven fire apparatus was substituted for horse-drawn vehicles. He was seriously injured several times while fighting fires in his earlier years with the Fire Department.

Chief Joynes was born Oct. 29, 1855, near Hampton, Va.

It is believed that Mr. Joynes' almost 60 years of service with the city of Richmond constitutes a record.

Charles Borland Dies

Charles Borland, president of the Federal Electric Company, Inc., of Chicago, died January 3 at Charlestown, S. C., following an operation. He was born in Toronto, Canada in 1877, and shortly thereafter moved to the United States, receiving his early education at Boston Manual Training School and Boston College. He later graduated from Harvard Law School.

After practicing law in Boston, Mr. Borland became manager of the Milford Electric Light and Power Co., Milford, Conn., and later of the Fort Orange Paper of New York, leaving the latter to enter military service in World War I.

Returning to civilian life, Mr. Borland became vice-president and general manager of the Robert Gair Company of New York. In 1926 he became associated with the Federal Electric Company, Inc., of Chicago as general manager and later he also held the post of president of the Mohawk Tire and Rubber Company of Akron, O.

Mr. Borland was elected a director of Federal in 1927, and in 1934 was elected president, at which time he resigned the presidency of the Mohawk Company.

Burke Now Deputy Chief, N.Y.F.D.

Captain Harold J. Burke, USNR, who for the past several years has been on indefinite leave of absence from the New York Fire Department in charge of the Damage Control Division, Bureau of Ships, Navy Department, and who rejoined the New York Fire Department on January 1, 1946, has been assigned to duty as Deputy Chief, 7th Division, the Bronx.

Elections and Appointments

Victor C. Huart was re-elected chief of the Farmington, Me., Village Corporation Fire Company for the 24th year, in December, 1945.

Chrtis S. Allen was re-elected chief of the Sanford, Me., Fire Department for his fifth term in December, last.

John Pitman, Jr. was re-elected chief of the Midland Park, N. J., Fire Department for another two-year term.

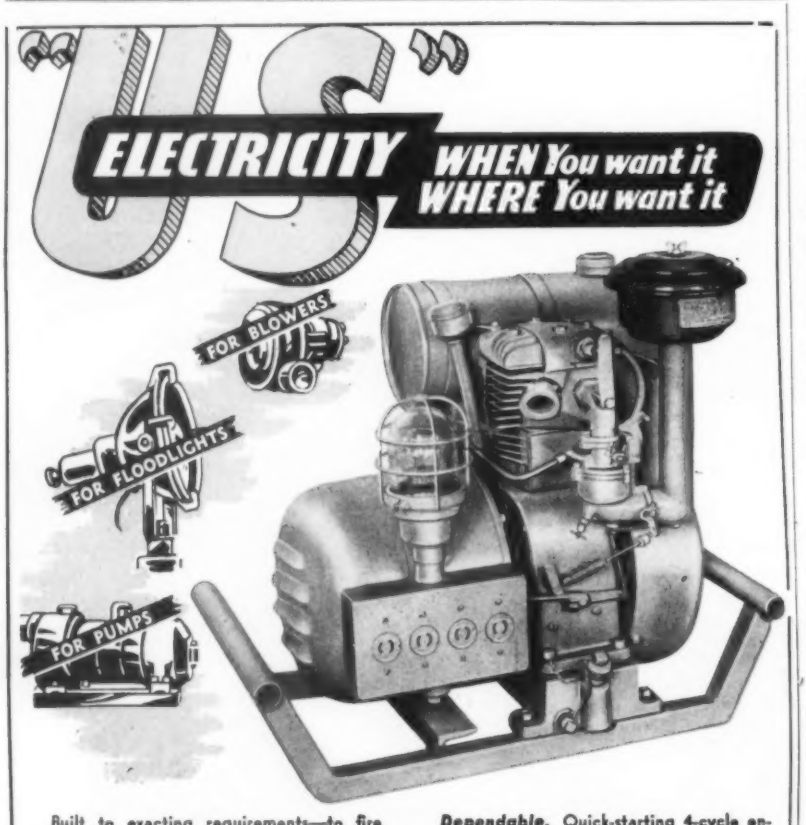
Fire Chief Clements Beitz has been re-elected to office by the River Road, N. J., Volunteer Fire Company for the 16th consecutive year.

C. W. Tucker was elected chief of the Huntertown Volunteer Fire Company, Huntertown, Ind. Floyd Hatch and Maurice Fitch were elected assistant chief and chief engineer respectively. Other officers were C. Arthur McComb, president, and S. S. Warner, secretary and treasurer.

Chief Tucker is a registered instructor of the Indiana Fire Service. He joined the company in 1939, was elected chief engineer in 1940 and appointed drill master in 1941.

George Freeman is the retiring chief. He joined the company as charter member in 1932, was elected assistant chief in 1936, and chief in 1940. Chief Freeman is a senior fire-fighter at the Army Air Base, Baer Field, Ft. Wayne, Ind. Messrs. McComb and Warner are also charter members of the company which now has a membership of 92 men and active fire-fighting force of 35.

Victor C. Huart was re-elected chief of the Farmington Village Corporation Fire Company for the 24th year in December, 1945. Roy Stinchfield is first assistant chief, and Elvet Grey, second assistant.



Built to exacting requirements—to fire department specifications. . . . Designed to stand up under the hard usage and difficult conditions a Fire Department Portable has to meet! In service with leading fire departments, these rugged 1500 watt Units have *proved* themselves capable of meeting every emergency.

Dependable. Quick-starting 4-cycle engine. Positive lubrication.

Start it and forget it! Automatic voltage regulation under all loads. No adjusting necessary. No fussing to mix gasoline and oil.

Compact. An easy load for two men.

Larger and smaller sizes available. Write for further information.

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FIREMEN'S CLOTHING

FROM MIDWESTERN

This Midwestern Combination Suit, made of Vanitex, the modern waterproof fabric, is sold separately or together. The "Mackinaw Coat" is a highly serviceable garment, with flexible elastic inner sleeves; adjustable collar strap, detachable wool lining, Midwestern safety snaps, two outside pockets, 6" storm flap and many other good features.

THE COAT:

- Adjustable collar strap
- Reinforced collar band for lining
- Lining attached with quick snap buttons
- Corduroy lined collars
- Reinforced, double stitched seams
- Vertical seams in sleeve shoulders
- Inside of fabric, heavily napped cloth
- Two outside pockets
- Wool detachable lining
- 6-inch storm flap

THE PANTS:

- Lining held by snap buttons
- Rubberized fabric belt in lining
- Eight suspender buttons
- Two side and one hip pocket
- Safety snap on belt
- Reinforced adjustable belt
- Special Vanitex fabrics
- Wide protecting flap
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REGULAR FIREMEN'S BOOTS AVAILABLE!

Firemen's boots ¾ length, reinforced instep, felt linings. Do not confuse these boots with reclaimed boots which have been offered firemen for past 3 years. These are regular fireman's boots made of the new synthetic rubber. Write.

See your Midwestern Mfg. Co. representative for catalog and prices, or write the factory.

MIDWESTERN MFG. CO.

MACKINAW, ILLINOIS

Enjoy THIS
BETTER PROTECTION
—from Chief to newest recruit!

M·S·A
Streamlined
FIREMAN'S HELMET

The sturdy, handsome M.S.A. Streamlined Fireman's Helmet serves Fire Departments throughout America with greater comfort, better head safety, finer design! Built of tough laminated bakelite, the Helmet is molded with a reinforcing ridge at the top of the curve of the shell, aiding deflection of impact, and increasing strength of construction. Arched brim is wide at sides for extra protection, yet permits carrying material on shoulders—extra length at rear guards neck from hot water, embers, and debris. Add to these advantages the parade-smart appearance, light weight and special comfort features of the M.S.A. Streamlined Fireman's Helmet, and you have the reasons why this great hat should be standard in *your* Department! Write for Bulletin DX-5.

MINE SAFETY APPLIANCES CO.
BRADDOCK, THOMAS and MEADE STS.
PITTSBURGH 8, PA.

Paul B. Lehman has been retained as chief of the fire department of Sunbury, Pa., following a departmental election. Paul F. Miller, recently returned from the Navy, was elected first assistant chief and Mark Herrold was named second assistant. B. W. Hoover, who also recently returned from the Navy, was made third assistant chief.

Otto Meyers of Church Lane, N. J., was elected chief of the Preakness Volunteer Fire Department No. 4. Harry Leckel was made assistant chief.

Howard Hunt was re-elected to succeed himself as chief of the Earlville, Ia., Fire Department at the annual meeting of the organization.

George Apgar was re-elected Chief of the Barnardsville (N. J.) Fire Department for the year 1946.

Lester Moyer and Milan Scheidt were elected Chief and First Assistant Chief respectively of the Fleetwood, Pa., Fire Department.

John Bateman was elected chief of the South Sioux City, Ia., Volunteer Fire Department for the third consecutive term.

Ralph Raridon was named Assistant Fire Chief of the Newton, Iowa, Fire Department following his return from two years' service with the Army Air Corps, it is announced by Chief W. L. Koppin.

John Kaelin was re-elected for a five year term as fire commissioner at a recent meeting of the Southold Fire District, Southold, L. I. He is a member of the Eagle Hook and Ladder Company of the Southold Fire Department and vice president of the Suffolk County Fire Commissioners' Association. He is also vice president of the North Fork Volunteer Firemen's Association. (Thanks H. Tracy)

John Ciampo was elected Chief of the Fairlawn, N. J., Fire Department for 1946, and Edward Bender of Columbia Heights Fire Company was named by the four local companies as Deputy Chief.

Walter Ebert was reelected Chief of the Carlinville, Ill., Fire Department to serve for 1946. John Geist will serve as Assistant Chief.

Election time in the Iowa fire service saw the following chiefs re-elected to serve for another term:
In Tama, Henry L. Anderson; Clarina, Omer Willison.

Ralph Raridon has been named assistant chief of the Newton, Ia., Fire Department, it has been announced by Chief W. L. Koppin. The new assistant only recently returned from two years' service with the army air corps.

Harold Jarvis has been reelected fire chief in Brighton, Mich.

Captain Otto F. Beverungen, of the Baltimore Fire Department, has been promoted to Battalion Chief by the city's Fire Board.

M&H

HYDRANTS
VALVES
and
Pipe Line
Accessories

A. W. W. A.
HYDRANTS
Underwriters Approved

Conform to American Water Works Association specifications. Approved and listed by Underwriters' Laboratories and Associated Factory Mutuals. Well known and widely used for many years.

SPECIAL TRAFFIC MODEL (shown at right) is designed to yield at ground line under impact, repair being simply renewal of breakable bolts and breakable coupling on stem. Dry top, revolving head, easy to lubricate. High efficiency because barrel diameter not reduced and there are no working parts or obstructions in waterway.

VALVES: A. W. W. A. types, iron body, bronze mounted with double-disc parallel seat or solid wedge type. Non-rising stem, outside screw and yoke; or with sliding stem and lever. Also furnished hydraulically operated. Square Bottom type operates in any position. All are rugged and dependable, made of best material with highest quality workmanship.

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AND FITTINGS COMPANY
ANNISTON, ALABAMA

There is One Sure Way to Determine what your Water Outlets will Actually DELIVER the

DYNA-STAT

will tell you Definitely

It will indicate the difference between DYNAMIC (flowing) pressure and STATIC (line) pressure.

the

Ratio Between the Two Gage Readings is Vitally Important

Consider one series of tests scientifically conducted with DYNA-STAT. The results showed that out of 14 hydrants tested only 3 were satisfactory, 3 showed faulty deliveries resulting in 90% or more pressure loss, the rest averaging 50% loss.

Remember this—no pumper can pull through an outlet where faulty flow exists, a greater volume than a comparative line pressure will push through that same outlet.

Get the facts now—Write—

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PRODUCTS CO.
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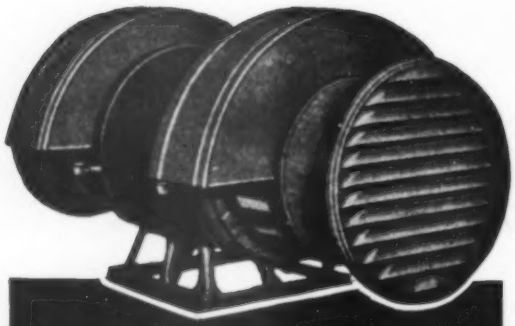

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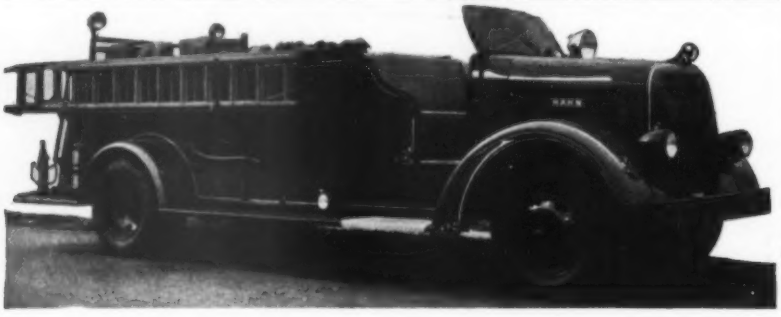
You Can Depend On It ALWAYS

An absolutely dependable, tried and proven siren for communities of all sizes. Loud, clear, simple to instal and no maintenance to bother with. Embodying the "know how" of the oldest and largest makers of siren signals in the fire field. Write for descriptive literature and list of towns using the model "M".

ALSO
manufacturers of a complete line of apparatus sirens.
Write for literature.

STERLING SIREN FIRE ALARM CO., Inc.
55 Allen Street Rochester, New York



"HAHN" FIRE APPARATUS
SINCE 1907

FINEST IN THE WORLD * STREAMLINED * BALANCED CHASSIS * AMPLY POWERED * VERY EFFICIENT PUMPS WITH PLENTY IN RESERVE

HAHN MOTORS, Inc.
HAMBURG, PA.

Resignations and Retirements

Homer B. Morris, for the past seven years Fire Chief of the Celanese Corporation of America, Narrows Virginia Plant, has resigned his post, due to ill health. Prior to joining the Celanese Corporation, he was Chief of the Beckley, W. Va., Fire Department and for thirteen years before that served as Captain in the Bluefield, W. Va., Fire Department.

Assistant Chief Ben Benish of the Cedar Rapids, Ia., Fire Department has retired after forty-eight years service as a fireman. He joined the regular fire department in 1897 but was for some years before that a member of the city's volunteer department.

Chief Gilbert Grove retired January 1, 1946, as head of the Piqua, Ohio, Fire Department. He served twenty-five years and five months in the department. An acting chief has been appointed.

G. M. Houren, with a record of over fifty years as a fire-fighter—twenty-six and a half years of which were spent as Chief of the Winnetka, Ill., Fire Department, has retired on pension.

He was a member of the Oak Park department from 1895 to 1919, the last few years of which he served as assistant chief, and prior to entering the Oak Park organization was a volunteer fireman. On April 14, 1944, the 25th Anniversary of his taking the Winnetka post, he was presented a 25-year award.

Chief Houren's son, Richard G. Houren, is fire marshal at Narragansett Bay Naval Training Station, Newport, R. I. He was formerly an engineer in the Chicago Fire Department.

Chief Houren's successor is Michael J. Dalton of Kansas City, Mo., where he served seven years on the fire department, holding the position as acting captain when he resigned to become Chief of the Fire Department of North American Aviation, Inc., Kansas City.

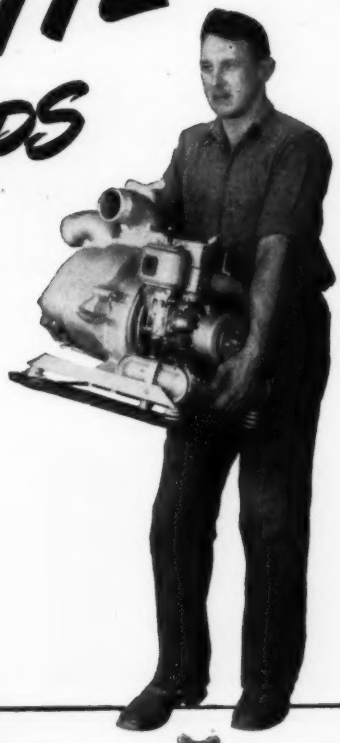
D. W. "Dick" Boller who has served fifty-one years—the past twenty-seven of them as chief—of the Nevada, Ia., Fire Department, has signified his intention of retiring.

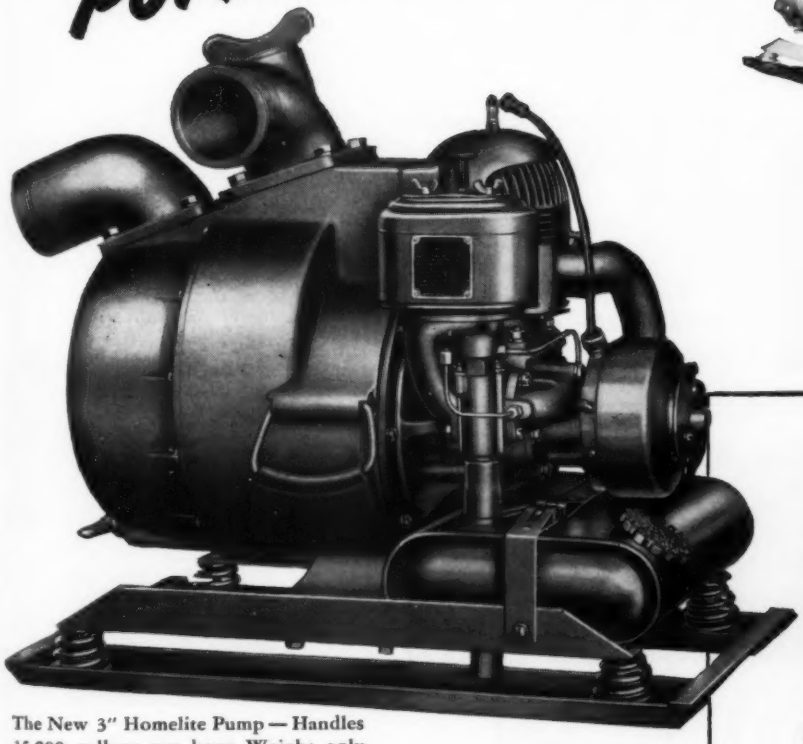
The resignation of Chief Engineer Richard C. Murray of the Rhinebeck (N. Y.) Fire Department, submitted December 15 last, was tabled by the Department, after a stormy session in which the Chief read a long list of grievances against village trustees and others responsible for the maintenance of fire-fighting equipment. Despite the Chief's insistance that he has "resigned" the firemen insist that he shall remain in office.

Obituaries

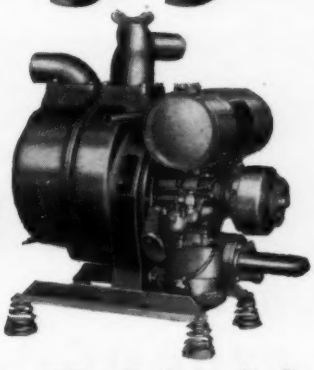
Mrs. Ella Jaeger, wife of Albert M. Jaeger, Fire Chief of Ecorse, Mich., died, following a heart attack, on December 19, 1945. Mrs. Jaeger, who was well known to many members of the International Association of Fire Chiefs and their ladies who attend fire chiefs' conventions, had been in ill health since 1933. Nevertheless even in her sickness, Mrs. Jaeger maintained contact with her many friends of the fire service. On

Announcing... The New HOMELITE PORTABLE PUMPS





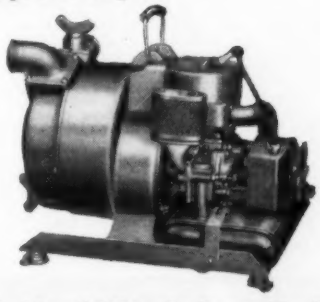
The New 3" Homelite Pump — Handles 15,000 gallons per hour. Weighs only 95 pounds complete.



The new 2" Homelite Pump — Handles 10,000 gallons per hour. Weighs only 88 pounds complete.

- **FASTER PRIMING**
- **FASTER PUMPING**
- **COMPLETELY PORTABLE**
- **BUILT-IN GASOLINE ENGINE**

Send for New Homelite Bulletin



The New 1½" Homelite Pump—Handles 3,500 gallons per hour. Weighs only 48 pounds complete.

HOMELITE

Portable **CORPORATION**

PUMPS · GENERATORS · BLOWERS

PORT CHESTER, NEW YORK, U. S. A.

THE NEW HALE FZZ
COMPACT—POWERFUL—PORTABLE

Frequent reports reach us telling of new uses for the Hale FZZ Portable Pumping Unit. Here are just a few of the many practical ways this unit is making itself useful to fire-fighters.

For fighting field or forest fires from moving trucks:

For "wetting down" and for stand-by use, thus releasing major equipment.

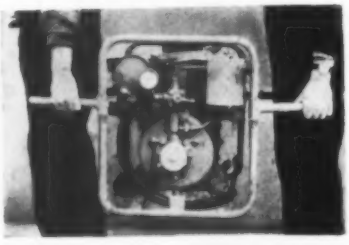
For pumping out flooded cellars and elevator shafts after fire, flood or other emergency.

For relaying water into pump or booster tank from water sources inaccesible to major Fire Pumpers.

For Factory Protection in fighting fires, before major equipment arrives.

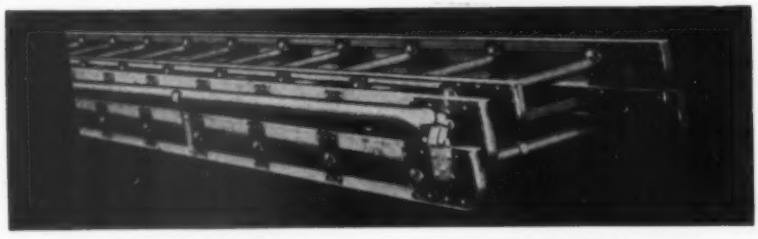
For fighting oil or other type fires requiring foam. (Built-in Foam Proportioner available when specified.)

Can Be Easily Carried or Wheeled on Floor.



Write today for FZZ Folder and for up-to-date information on Hale Fire Pumps—built in all standard capacities.

HALE
FIRE PUMP COMPANY
Conshohocken, Pa.



Again Available
STRONG-LIGHTWEIGHT *Aluminum Ladders*

★ Reallocation of aluminum by the government permits the manufacture of a limited number of fire department and industrial ladders. The three section, aluminum, heavy duty extension ladder illustrated is type 3 EL. Its unusual strength combined with remarkable light weight makes it one of the most popular fire ladders ever designed. Because of these characteristics . . .

. . . a 65 foot ladder of this type can easily be raised by four men and a supervisor — an impossible feat with ladders not made of aluminum.

FOR GREATER SAFETY AND EASE OF HANDLING

The locks operate automatically at any desired point during ladder extension. The rope and flexible cable are arranged for simultaneous automatic extension of both flies.

★ ★ ★

Write for information on standard sizes and aluminum ladders built to specifications

Aluminum Ladder Company

200 Carbis Street
Worthington, Pennsylvania

May 27, 1945, Chief and Mrs. Jaeger celebrated their thirtieth wedding anniversary. Besides her husband she is survived by two daughters.

Alexis B. Cunneen, 49, civilian chief of the Fort Slocum Fire Department, on David's Island near New Rochelle, N. Y., and former Chief of the Larchmont, N. Y., Fire Department from 1941 until 1944 died January 27 after a short illness.

Chief Cunneen was active in the Fire Chief's Emergency Plan of Westchester County, heading a number of its committees. He was a member of the International Association of Fire Chiefs, New York State Association of Fire Chief and other fire service organizations. He leaves a wife, Mrs. May Cunneen; a daughter, Miss Mary Elizabeth Cunneen; his mother, Mrs. John Cunneen and a sister, Miss Margaret Cunneen.

News of the Manufacturers

Fred Beardslee Promoted

C. T. Ruhl, president of Mack-International Motor Truck Corp., has announced election by the board of directors of two new vice-presidents. Frederick W. Beardslee has been made vice-president of that corporation in charge of its motor fire apparatus division. John H. Middlekamp becomes vice-president of the same company in charge of the general bus department.

F. W. Beardslee

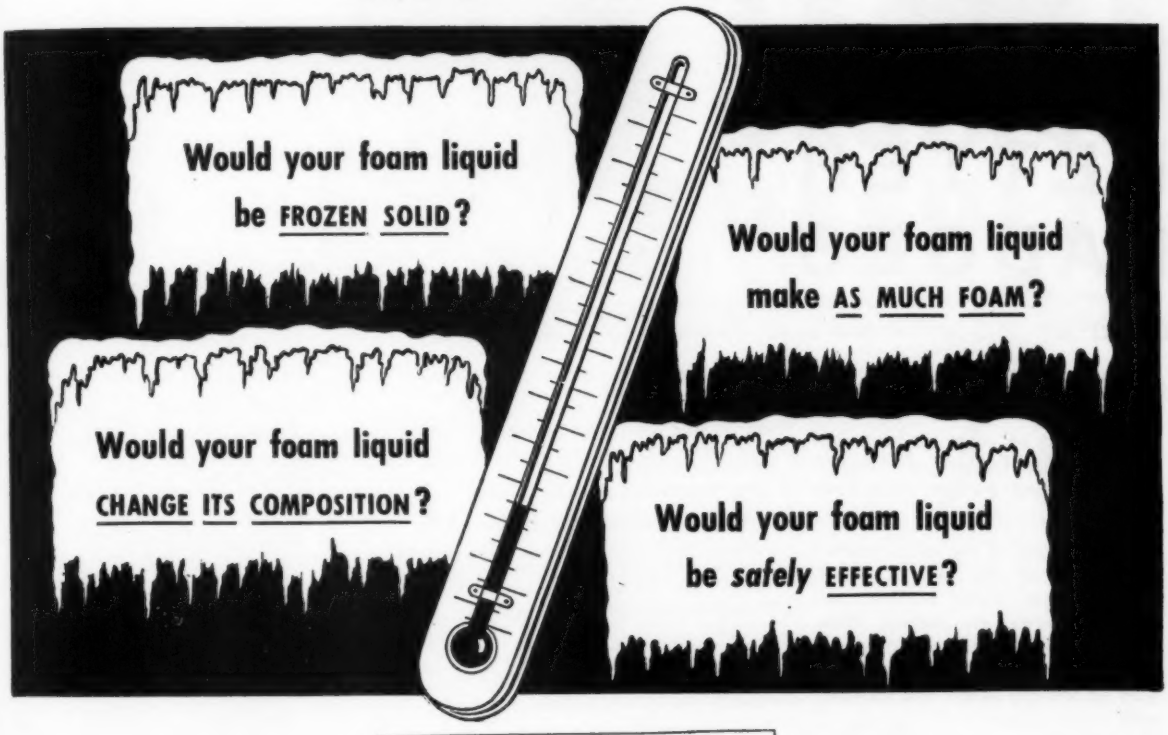
Mr. Beardslee, a native of Bridgeport, Conn., joined the Mack Motor Truck Company in 1919. He was made manager of the Bridgeport branch in 1927. Qualifying as one of the country's experts on fire equipment, he was made manager of Mack's fire apparatus division in 1940. His headquarters will be in Mack's Long Island City plant.

Davis Company Offers New Line

The Davis Emergency Equipment Co., Inc., 45 Halleck Street, Newark-4, N. J., has announced an extended line of gas detection and gas analysis instruments.

The new line of instruments, which will also include the previous Davis line of combustible gas alarm systems, will include safety equipment for the detection and analysis of combustible gas or vapor in air for the measure of gas or vapor air mixture from the characteristics of explosion. It will also detect and analyze any one gas, whether combined or not with other gases.

FREEZING QUESTIONS about Your Fire Protection


Would your foam liquid be FROZEN SOLID?
Would your foam liquid make AS MUCH FOAM?
Would your foam liquid CHANGE ITS COMPOSITION?
Would your foam liquid be *safely* EFFECTIVE?

When unpredictable FIRE strikes in dead-of-winter—below freezing temperatures impose the severest test on the extinguishants.

When an easy-freezing foam liquid is just *slushy* with ice crystals (*a stage reached before freezing solid*) ... drawing the liquid from cans by pick-up tubes will either be impossible or too irregular to be effective.

* MEARLFOAM 5

Completely safe and non-corrosive—may be used with standard Mechanical Foam-Forming Equipment

MEARLFOAM-5, a blended, multi protein foam liquid, (*by its chemical structure*) is insulated against cold. It gives better performance in cold water and at low temperatures than foam liquids which freeze readily when the temperature begins to drop.

. . .

TECHNICAL ASSISTANCE AVAILABLE
Bulletin on Request

** MEARLFOAM-5, in pre-mixed solutions with hard or sea water, will not form any objectionable precipitate on long standing.

FOAM ON FIRE OUT... Stays OUT!

THE MEARL CORPORATION
153 Waverly Place, New York 14, N.Y.

*TRADE MARK

BETTER BADGES

than you ever got before—

For the past 64 years we have supplied the fire fighters of America with the finest badges they have ever worn.

Now—because of the government's prohibition of the use of nickel, brass, copper, nickel plating, and chromium — we are making these badges and insignia in sterling silver, sterling silver gold plated, rolled gold on sterling silver, and 14 karat gold.

Today — for just a little more, you get a sterling silver Braxmar Badge — without doubt the best badge you can buy anywhere.

Recommend Braxmar to all your fellow fire fighters and wear one yourself.

★

The blue covered catalog is the latest published but write for our new price list effective July 29, 1943. Only prices in the catalog on 14 karat gold items are still in effect. All auto plates are discontinued for the duration.

★

C. G. Braxmar Co., 242 W. 55th St., N. Y.

John O. Veit, Pres.

BRAXMAR BADGES

Standard for over 66 years

Homelite Reopens Chicago Office

The Homelight Corporation, Port Chester, N. Y., announces the reopening of its office to serve the Chicago area. Located at 2409 Lake street, Melrose Park, Ill., the office will be managed by T. W. Gramm, formerly manager of Homelite's Philadelphia office. "Wes" Gramm acted as Homelite technician with the armed forces during the war.

T. W. Gramm

Mr. Gramm states that the new office has shop facilities for complete servicing and repair of Homelite units and that it will be staffed by factory trained mechanics. A complete stock of service parts will be maintained.

Eberhardt Now Walter Kidde V.P.

Paul W. Eberhardt has been elected vice president of Walter Kidde & Company Inc., it was announced by the board of directors in December. His principal duties will include management of domestic sales of the company's fire-fighting equipment in aviation and general industry together with general supervision of field selling activities.

Paul W. Eberhardt

Mr. Eberhardt joined Walter Kidde & Company in 1926 as manager of the Public Utility Department to assist in the development and sale of fire-protection equipment in this field. In 1928, he was made manager of the Industrial Department (the Public Utilities Department being merged therein) and in early 1944 he was given full responsibility for the activity of the field sales force. Mr. Eberhardt attended the University of Pittsburgh, Carnegie Institute of Technology and the University of Pennsylvania. In 1918 he became associated with the Duquesne Light Company where he instituted safety measures for electrical equipment. He was made Safety Director over all departments, and it was under his direction that the first carbon dioxide system used on land installations for protecting oil switches and transformers was installed.

He is a member of the Sales Executive Club, National Safety Council, American Institute of Electrical Engineers, American Society of Safety Engineers and the National Fire Protection Association.

New M. S. A. Catalog

The new, complete 178-page 6-B Catalog has just been published by Mine Safety Appliances Company, describing and illustrating the complete range of M.S.A. safety equipment for industrial application, including many new products.

The regular edition of the 6-B Catalog is in its usual 8½" x 11" size. Also available is a new, handy, pocketsize edition of this catalog 5" x 6½", containing the same material and number of pages as the large edition, but in the minature size.

Copies may be secured by writing to Mine Safety Appliances Cowpany, Pittsburgh 8, Pa.

R. N. Smith Returns to Ahrens-Fox

The Ahrens-Fox Fire Engine Corp., Cincinnati, Ohio, manufacturers of fire-fighting equipment, announces the appointment of R. N. Smith as Vice-President and General Manager. No newcomer to Ahrens-Fox is Mr. Smith, who worked with the Cincinnati firm from 1925 to 1941. Since the latter date, Mr. Smith has been with Mack-International Motor Truck Corp., serving as Northeastern Division Fire Apparatus Manager.

R. N. Smith

"I am very happy to be back in Cincinnati, where I was born and raised," said Mr. Smith, "and I believe that no manufacturer of fire apparatus has a brighter future than Ahrens-Fox."

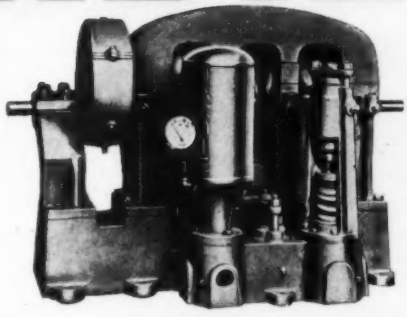
Kaar Announces New Developments

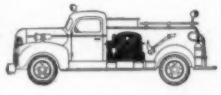
Mobile 50 and 100 watt FM radio transmitters which operate from the standard 6-volt automobile battery, and a companion FM receiver that offers fine voice quality, are two new developments announced by Kaar Engineering Company at Palo Alto, California.

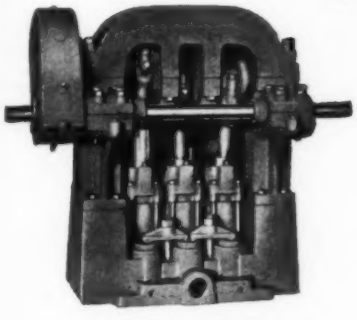
Use of instant-heating tubes, which Kaar pioneered in AM radiotelephones, makes possible higher power than has previously been considered practical for mobile units. Pushing the Kaar micro-

HARDIE PUMPS & GUNS ASSURE DESIRED RESULTS

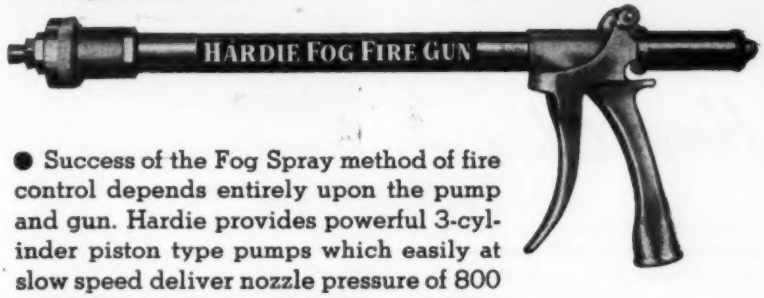
This Hardie LCXA pump delivers 60 gallons per minute at 130 R. P. M. with nozzle pressure of 800 P. S. I.





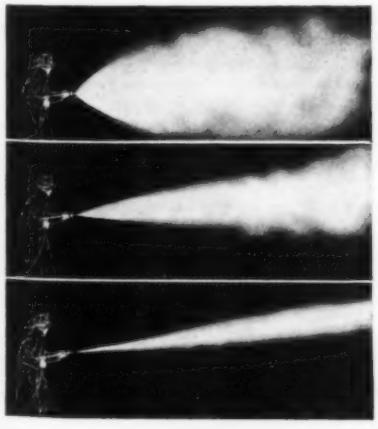


Above the Hardie XCXX pump delivers 35 gallons per minute at 118 R. P. M. with nozzle pressure of 800 P. S. I.



● Success of the Fog Spray method of fire control depends entirely upon the pump and gun. Hardie provides powerful 3-cylinder piston type pumps which easily at slow speed deliver nozzle pressure of 800 P. S. I. The Hardie Fog Fire Gun produces a true fog—there is no splatter. All the water passing through the gun is completely atomized delivering the maximum of fire control efficiency. By mere pressure of the fingers the operator can change the character of the application from true fog, to intermediate—blended fog and spray—or to a solid driving stream of terrific impact.

Leading manufacturers of Fog Fire Fighters equip their units with Hardie pumps and guns. Specify Hardie pump and gun equipment when you buy a Fog Fire Fighter or convert an old truck.



THE HARDIE MFG. COMPANY

Hudson, Mich. Los Angeles, Calif. Portland, Oregon

Canadian Distributor C. W. LEWIS, Grimsby, Ontario

★ H ★ A ★ R ★ D ★ I ★ E

High Pressure **PUMPS AND FOG GUNS for Fog Fire Fighters**

THE NEW
SAW-GUN
SHOULD BE STANDARD
ON ALL
FIRE-FIGHTING EQUIPMENT

Here's Why..!

The Saw-Gun is a portable power-saw that will quickly cut into all metals, wood and other materials. Quickly attaches to any elecrtic or air drill, and may also be propelled by a flexible shaft. Insert ordinary hack-saw blade for cutting.

Firemen equipped with this handy tool can now get at the fire quickly. Can cut openings into obstructions regardless of their material. Cuts rapidly through heavy gauge steel. No need to waste precious time removing steel gratings . . . cut them out of the way with this amazing portable tool. Does away with slow, cumbersome, dangerous gas cutting torches, together with their long lines of hose and heavy tanks.

Progressive fire-chiefs who know the importance of getting at a fire *fast*—who want a quicker means of getting to entrapped persons, will add the Saw-Gun as standard equipment.

SEE YOUR JOBBER or WRITE DIRECT
Mid-States
EQUIPMENT CORPORATION
Saw-Gun Division
2419 S. Michigan Ave., Chicago 16, Ill.

phone button instantly heats the filaments, and puts the message on the air.

The new "natural-voice" Kaar FM-50X transmitter uses the new Kaar system of modulating the phase modulator tubes upon which patents are now pending. The audio frequency response from the input of the FM transmitters to the output of the FM-39X receiver is within plus or minus five decibels from 200 to 3500 cycles.

Kaar Radio Equipment

Kaar mobile FM radiotelephones are not limited to police work. Their frequency range is 30 to 44 megacycles, thus including frequencies allocated by FCC to forestry, special emergency, utilities, urban transit, highway and maritime mobile units, and governmental and experimental uses in addition to police and fire departments.

Both the 50 and 100 watt transmitters have self-contained dynamotor power supplies and only two types of tubes are used. Transmitting and receiving units are housed in identical cabinets, 8½" high, 8" wide and 18" long. All terminals and leads come out one end, so the units can be installed side by side, conserving trunk compartment space. The dust covers are flat so that tool boxes, first aid, and other equipment may be stored on top. These covers can be released quickly without special tools, and the entire installation can be taken out by releasing two slide catches.

Reininger Heads Powhatan Brass

Announcement has been made by the Powhatan Brass and Iron Works, Ranson, W. Va., that at the annual meeting of the company's Board of Directors in January, Charles F. Reininger, formerly vice-president and general manager, was promoted to the post of president and general manager of the company. He succeeds the late Charles H. Simmons, who died last June.

Charles F. Reininger

Mr. Reininger has been connected with the Powhatan Brass and Iron Works for the past twenty-six years, rising from the position of shipping clerk, which he held in 1920 to assistant to manager, then manager. In 1940 Mr. Reininger was elected a vice-president and continued in this capacity until advanced to the position of president and general manager.

With Our Readers

Post-War Problems of the British Fire Service

The following letter was recently received from our good friend William W. Seabrook, editor of our British contemporary "Fire". In it Mr. Seabrook very clearly points out that the problems of the British Fire Servcie are quite similar to our own.

"Dear Mr. Shepperd:

"Concerning the editorial note—not the article—on Page 671, September edition, of your excellent journal, I wish to make the following comments:

"1. Years before conception of the NFS, the technicians of the British Fire Service—municipally controlled as it then was—were urging the Government to permit the Fire Service to use two-way radio-telephony in similar conditions to those prevailing in the police forces of the country. The Fire Service request was always sidetracked by the bueaucrats, who, in addition to being more police-minded than fire-wise, were also convinced that they alone knew what was good for the public.

"2. In 1937 the British Fire Service—still municipal—again urged upon the bureaucrats the value of two-way radio-telephony to the Fire Service in coping with potential enemy-made fires. The time the official response was: "Oh, dear! The enemy airmen will hear what we're saying. There may be no objection to your using field telephones in event of an emergency arising."

"This, I venture to assert, explains in a nutshell the seeming backwardness of the Municipal Fire Service in the field of modern communication system, and why for so long we had to rely on field-telephone units. Neither the local authorities not their fire chiefs were to blame; they were able to face facts, to study the problem, and to find the solution. Bureaucracy was content to be a prey to fear, to do nothing and to hope for the best.

"Just as New York City is not the United States of America and never has been, so the National Fire Service of Britain has never been, and never will be, the British Fire Service in its entirety.

"The National Fire Service was a hurriedly conceived, and born, war-time organization, formed after the Municipal Fire Service and its auxiliaries, had utterly defeated the efforts of the Luftwaffe, under Goering, to subdue Britain by fire.

IMPORTANT! NEWS — for every FIRE DEPARTMENT!

M·S·A Announces . . .

THE REVOLUTIONARY

M·S·A

Chemox

SELF-GENERATING

OXYGEN BREATHING APPARATUS

Generates its own oxygen as you breathe—in the amounts you need—giving you *one hour's* protection in unbreathable air, using a replaceable chemical canister! Weighs only 13½ lbs. complete. No cylinders, high-pressure valves or fittings. Fog-free lenses. Absolutely simple to use. Proved by Navy battle service all through the war! Write now for Bulletin BM-8, and an actual demonstration.

ONE REPLACEABLE CANISTER DOES THE WHOLE JOB!

AND

THE M·S·A DEMAND-TYPE OXYGEN MASK

Built to high standards of construction and dependability, this extremely simple M.S.A. Oxygen Mask operates on the demand principle—supplying oxygen direct from refillable cylinder, for one-half to one-hour period. No special training required—facepiece has quick-disconnect fitting to conserve oxygen during standby periods—no lens fogging. Write for Bulletin BM-7. Demonstration gladly arranged.

JUST PUT IT ON—OPEN A VALVE—AND BREATHE!

MINE SAFETY APPLIANCES COMPANY

BRADDOCK, THOMAS AND MEADE STREETS PITTSBURGH 8, PA.

District Representatives in Principal Cities

The element of time is of first importance in the successful treatment of burns. If a burn is treated within 15 minutes after it occurs, the probability of blister formation is reduced to a minimum. But if time is wasted before proper treatment is started, serious complications and infection may follow.

When using Gebauer's TANNIC SPRAY in the treatment of burns, the factors involving time-loss are eliminated. This preparation is a stable solution of tannic acid ready for immediate use. Packaged in a sturdy amber bottle having an automatic dispensing cap, which permits the projection of the solution in the form of a fine jet stream. Upon application the solvent evaporates rapidly, covering the burn with an evenly applied, dry and flexible film of tannic acid.

Gebauer's TANNIC SPRAY is a practical *first* first-aid treatment for first, second, and small area third degree burns. Write for literature.

THE GEBAUER CHEMICAL CO.
9410 St. Catherine Ave. • Cleveland 4, Ohio

ATLAS

LIFE NETS

"the finest," have been instrumental in saving many hundreds of lives, without injury to the person rescued or to the men holding the net.

The many exclusive features of the Atlas net have been proven through performance. ATLAS NETS are still available and are the only modern, up-to-date nets, with dual action impact absorbers.

Specify ATLAS when you want dependable life nets.

ATLAS SAFETY EQUIPMENT CO., INC.
26 Warren St. New York 7, N.Y.

"The NFS was engendered, fostered and controlled by the same bureaucrats who had been so opposed to radio-telephony as a Fire Service adjunct. They understood neither the principles of national effort, nor the science of firefighting, and I do not think that they do so today. The outcome was that fires were fought with the materials best known to the bureaucrats—fountain pens and endless forms. They were supplemented by improvised fire appliances, which merely served to make the complications on the fire-ground still more complex.

"Mark you, there was no stint of money, or men. At one period the NFS was costing this country about 60,000,000 pounds per year, or 30s a head of the population, assuming that all our people were here, which they were not, as you are aware. Yet, with all this liberal expenditure, all the official circulars, Orders of the Day, Fire Service Instructions, and with many times more the men and material with which the old Municipal Fire Service successfully fought fires, losses at normal fires—that is, non-enemy made fires—went rocketting skywards. They are still mounting, despite the fact that the fire prevention campaign launched by the fire insurance interests, is continuing to do splendid work among the people as a whole.

"The British Fire Service, in times past, won, and enjoyed, the respect of the Fire Services of the United States and Canada. We want to retain that asset at the same level as our own respect for the firefighters of the North Americas. It is therefore only right that the Fire Service of the North Americas should know that our Fire Service possessed a reputation for technique, as well as for devotion to duty, before the emergency of the NFS, and that we were not the Darktown Fire Service that some advocates of the NFS would have you to think that we were. We feel that we can learn from you, and that you can learn from us. The honors are mutual.

NFS to Be Replaced by Municipal Departments

"Fortunately, for this country, and for the traditions of our Fire Service, the NFS is in process of being replaced by municipal fire departments, when the brakes on progress, applied during the NFS regime, will be removed. We then shall be able to design, and to acquire, the best type of approved fire apparatus, and to relegate all our OCD (NFS) improvisations, and burlap, to the junk heap.

"We are, however, not reverting to a conditions of affairs in which fire defense will be vested in the more than 1,400 local authorities which were fire authorities before the setting-up of the NFS. Instead, we shall have large popuiations, and consequently, much larger areas. There will be standard fittings, and it is hoped a standard minimum wage, standard conditions of employment, standard grades of rank, and standard drills; and to ensure this, there will be a Government inspectorate, composed, it is to be hoped, of practical fire engineers and not Civil Service clerks.

"My very best wishes to you, to all connected with the production of FIRE ENGINEERING; and to all who read and benefit from it.

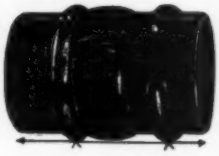
"Yours faithfully,
"WM. W. SEABROOK,
Editor, FIRE."

DOUBLE SERVICE *with* BI-LATERAL

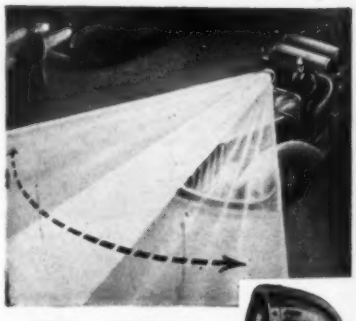
This installation shows the position of the rubber lining in BI-LATERAL FIRE HOSE when held in a flattened position between calls into service. This is why we can save a city one replacement, because this hose will give double service of any hose constructed under the old method.

Also we can load 25% more on the apparatus bed, actually making an $8,000 truck loaded with Bi-Lateral construction, cheaper than a $7,000 one loaded with other construction.

Here's the new DROP-FORGED rocker lug coupling (not cast bronze) with the swivel protecting feature.



BI-LATERAL FIRE HOSE CO.
20 No. Wacker Drive, Chicago, Ill.



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The Oscillating Light with the Lamphead that does NOT move!

You clear your side of the street quickly, day or night, as the oscillating red beam of this Wig-Wag Redhead sweeps the street and flashes red signals through to the windshields of cars away ahead of you. You get there faster, safer, with less use of siren. Scientifically built; moderately priced.

Test This Better Warning Light Write today for folder 145

CARPENTER MFG. CO.
2001 Master-Light-Bldg., Boston 45, Mass.

from the CARDOX case record...

Out of actual on-the-job fire experience comes evidence that Cardox Fire Extinguishing Systems provide a scope of carbon dioxide performance... and standard of effectiveness . . . far beyond the generally recognized advantages of this fast acting, non-damaging, economical extinguishing medium.

File No. S-65, covering an investigator's report on Cardox extinguishment of an oil reclamation plant fire, offers an interesting example of Cardox protection by total flooding . . . one of the many types of protection made most effective by Cardox methods of controlling and applying carbon dioxide:

"Officials of the company were highly pleased with the speed and effectiveness of the Cardox System in extinguishing a fire in the company's big *Oil Reclamation Room*—one of nine rooms and a long pipe tunnel protected by this Cardox System.

"The fire was caused by the overheating of a refining unit, causing the oil to boil over. This oil, which has a 450° F. flash point, was estimated to be at 550° F. when it boiled over. It immediately burst into flame, creating a large, hot fire.

"However, the thermostat immediately actuated the Cardox System. Approximately 5½ tons of Cardox CO_2 were released . . . instantly extinguishing the fire, and totally flooding the room with carbon dioxide. The only evidence of the fire was the paint burned off the refining unit in which the blaze originated. Normal operations were resumed in less than one hour."

The danger spots in your plant may not be similar to the one described in File S-65. But, if they involve flammable liquids, electrical equipment or hazardous manufacturing operations, Cardox offers a new scope of protection you should investigate. By increasing the performance effectiveness of carbon dioxide . . . by making it practicably available in a single system for use in *tons* for large fires or *pounds* for small ones, with ample reserve for new emergencies . . . Cardox has set new high standards of protection for many of the most severe hazards in American Industry.

An analysis of your fire hazards by Cardox Research Division and Engineering Staff puts you under no obligation. Write for Bulletin 1926.

CARDOX CORPORATION
BELL BUILDING • CHICAGO 1, ILLINOIS
District Offices in
New York • Philadelphia • Washington
Pittsburgh • Cleveland • Detroit
Cincinnati • Houston • San Francisco
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MANHATTAN
FIRE HOSE

Radio-Active Treated, Mildew-Proof . . . Rot-Proof...Freeze-Proof... and with FLEXLASTICS* for longer Service life. Every length Pressure-Tested and Flat-Folding for easier, safer handling.

*The term FLEXLASTICS is an exclusive MANHATTAN trade mark. Only MANHATTAN can make FLEXLASTICS.

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MANHATTAN RUBBER DIVISION
Executive Offices and Factories, Passaic, N. J.

FOR THE PROPER CARE OF YOUR FIRE HOSE
DAYTON
POWERDRAULIC
EXPANDER

Motor-driven with ¼ h.p. gear head motor.

★ Expands couplings from ¾" to 6" size.

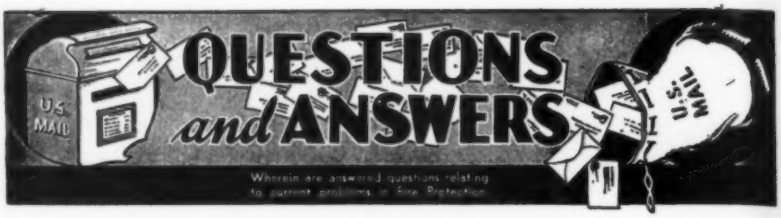
Tests hose up to 700 lbs.

Extra attachment removes old expansion rings from old couplings. No manual effort needed. ★

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

MORE PRESSURE - LARGER MOTOR
ROOMIER WORK TABLE
REPLACEMENT SEGMENTS (ALL SIZES)
FOR ANY OLD HYDRAULIC EXPANDER

SEND FOR ILLUSTRATED BULLETIN
DAYTON FIRE EQUIPMENT CO.
1242-48 W. 2ND ST. - DAYTON 7, OHIO



Larger Flow from Larger Line

To the Editor:

Two 300-foot lines are stretched from a pumper which is pumping at 150 pounds per square inch. One line is of 2½-inch hose and the other of 1½-inch hose. Both are equipped with 1-inch nozzles.

Which line could give the most flow in gallons per minute?

C. E. G.

Answer: The nozzle pressure on the 1-inch nozzle of the 300-foot line of 2½-inch hose would be approximately 86.7 pounds per square inch, while the nozzle pressure on the 1-inch nozzle on the 1½-inch line of hose would be 51 pounds approximately. Both these nozzle pressures are based upon an engine pressure of 150 pounds.

The discharge from the nozzle on the 2½-inch line would be 275 gallons per minute, while that from the nozzle on the 1½-inch line would be 210 gallons per minute.

In other words, we get both a greater flow and greater nozzle pressure on the nozzle attached to the 2½-inch hose.

Combustibility of Oakum

To the Editor:

We recently answered an alarm for a fire in a builder's warehouse. The man who sent in the alarm told us that he was sent to the second floor to move a heater that was in storage. When he moved the heater (he didn't know whether there was a spark or not), the oakum that was piled in the back of it burst into flame and before it could be extinguished by the employees of the warehouse, fire had spread to the nearby material.

Is it possible for oakum to take fire by spontaneous ignition? If so, why are there not more fires in boats whose locker rooms are stored with this material?

W. J. G.

Answer: Oakum is a general term applied to hemp fiber or mixtures of hemp with other fibers. Oakum is manufactured and sold in three forms, all of which are impregnated with pinetar or pitch.

1. Marine Oakum is a long, soft, pure hemp fiber twisted, used for caulking ships' hulls and decks.

2. Plumber's Oakum is a mixture of hemp, waste, jute, tow, or other similar soft fibers, used for caulking underground water and soil pipes.

3. Horseshoe oakum is a mixture of a small portion of hemp together with old carpet back, waste and similar materials, used for cushioning hoofs of horses.

Regarding the hazards of oakum, the following may be said: Plumber's and Horseshoe Oakum, when in contact with oily material, are subject to spontaneous ignition. Marine Oakum, being of pure fiber, is not so likely to heat.

The waste products of fibers are more dangerous than either the crude or pure fibers, due to dusty constitutents, which greatly facilitate the reactions resulting in combustion.

Oakum burns with a persistent combustion, emitting heavy black smoke. A fire in this material, in large quantities, is hard to control and firemen are hampered by dense smoke, fumes and boring fire. ("Industrial Fire Hazards" —Dana Milne)

Drafting Hot Water

To the Editor:

In a recent promotional examination, the following question was asked: Is it possible to draft hot water?

I believe that I once read something to the effect that hot water cannot be drafted because the vapors above the water spoil the vacuum. Is this correct?

H. F.

Answer: The height to which water can be drafted depends directly upon the temperature of the water. If the water is fairly hot, the height to which it can be lifted by suction would be very small. If the water were very hot, that is, near the boiling point, it could not be lifted at all by suction.

The following table shows the approximate lift for various water temperatures, assuming maximum lift to be 28 feet (at 60 degrees F):

Temperature Degrees F	Lift in Feet
60	28
100	19
140	10
160	4
180	0

Stability of Water Tower

To the Editor:

The weight of a water tower is 7½ tons. Its wheel gauge is 8 feet. To what limit may the pressure at its 2-inch mainmast nozzle be increased, when extended at its full 65-foot height, without danger of overtipping?

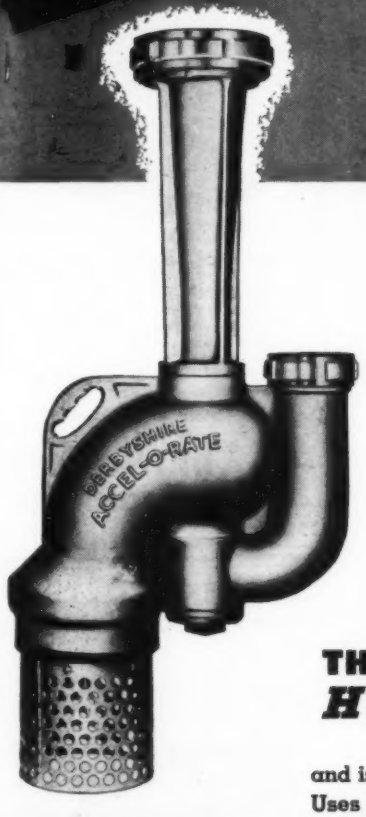
H. M.

Answer: The moment arm of the chassis is measured from the point of contact of the wheel with the pavement to

NOW AVAILABLE

FOR MUNICIPAL FIRE DEPARTMENTS

The FAMOUS Derbyshire ACCEL-O-RATE JET PUMP BOOSTER



NOW YOU CAN

1. Draft water beyond normal limits of regular pumping equipment.
2. Refill booster tanks quickly either during or after the fire.
3. Empty a flooded cellar without using other pumping equipment where suitable hydrant water is available.
4. Safely use regular pumping equipment to empty flooded cellars — the ACCEL-O-RATE handles all dirty water and abrasive particles, NOT the expensive pumper.

AND IN ADDITION

THE DERBYSHIRE JET PUMP BOOSTER

HAS NO MOVING PARTS

to wear out . . . to become clogged . . . to replace

and is completely portable—weighs only 18 pounds!
Uses standard 2½" hose.

SEND THIS COUPON TODAY

Get all the facts about the famous Derbyshire ACCEL-O-RATE Jet Pump Booster. No obligation.

DERBYSHIRE MACHINE & TOOL CO.
Philadelphia 44, Pa.

THOUSANDS ARE NOW IN USE

Used by the Army, Navy, and the Merchant Marine in a variety of different applications — the jet principle is simple, dependable, and trouble-free —

NO MOVING PARTS

NOTHING TO GET OUT OF ORDER

D2

Derbyshire Machine & Tool Co.
Philadelphia 44, Penna.

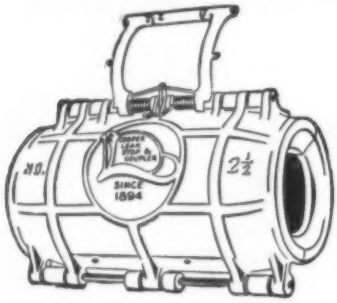
Gentlemen:
I'd like to have all the details on how to increase the utility of my pumping equipment with the Derbyshire ACCEL-O-RATE Jet Pump Booster.

NAME _____ STATE _____

ADDRESS _____

TITLE _____ FIRE COMPANY _____

ON GUARD AGAINST LEAKS AND BURSTING HOSE!



Every Fire Department needs the new lightweight genuine Cooper Triple Lock Hose Jacket. (Two sizes: 2½" and 1½")

In use since 1894. It is the original leak stop and Universal Coupler.

"Look for the Helmet"

COOPER HOSE JACKET CO.
510½ W. FRANKLIN ST., ELKHART, IND.

HOSE BRASS GOODS
WB LINE
THE WOOSTER BRASS CO.
WOOSTER, OHIO

SOME WORDS FOOL YOU

like

RAISE (to erect) **RAZE** (to destroy)

BUT

WOOSTER BRASS always means the BEST in fire equipment supplies.

THE WOOSTER BRASS CO.
WOOSTER, OHIO

When you specify products bearing the TRUMPET trademark, you can SAVE and BANK on SAFETY.

Classified Advertisements

Rates are inexpensive. "For Sale," "Proposal" and "Wanted" advertising. $5 per inch insertion (10% discount allowed for three or more consecutive insertions). FIRE ENGINEERING, *24 West 40th Street, New York 18, N. Y.*

WANTED

Fire Equipment Dealers to sell Morning Pride protected rubber firecoats, fire pants, fire mitts and fire suspenders.
Write today Morning Pride Mfg. Co., 1986 Home Ave., Dayton 7, Ohio.

CHIMNEY POWDER

No need to send men on the roof for chimney fires. Haa-Mor Soot Destroyer not only puts the fire out, it continues to work until it cleans the chimney, making it unnecessary to go back to another chimney fire. Put up in handy packages. Agents wanted. Harry S. Morgan, 32 Broad St., Johnson City, N. Y.

AGENTS WANTED

Agents Wanted to Sell Fire Extinguishers and Fire Protection Equipment for Old Established Company. Good Proposition. SCHWARTZ BROS., Inc., 827 Arch Street, Philadelphia, Pa., Established Over Thirty-Eight Years.

WANTED

Back issues of Fire and Water Engineering between 1915 and 1930; whatever issues available. Also old photographs or pictures of horse drawn and motorized fire apparatus.
Benedict J. Stevens, 146 Duke St., Kearny, N. J.

the center of gravity line, which is half the width of the truck.

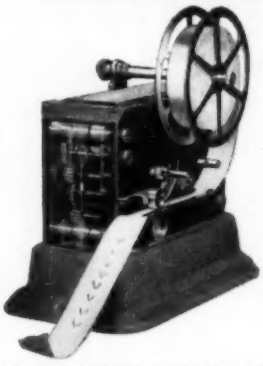
The moment arm represented by the tower, when fully extended, is measured from the nozzle tip down to the pavement, for the maximum resistance to turning effect, which is one we must consider, is measured by the maximum moment arm at a right angle to a line through the turning point, or fulcrum. This fulcrum, or turning point, is the point of contact of the tire with the pavement. A line at right angles to this would be a line along the surface of the pavement, and therefore the water tower arm would be considered from this point on the pavement to the tip of the nozzle, or 65 feet. Beyond a pressure of 153.8 lbs. per sq. in., the tower would tip (assuming no outriggers or braces were used).

"Lucky Break" for Peekskill Aerial

While operating at a dwelling fire in Peekskill, N. Y., December 24, the 30-year-old aerial ladder of the Peekskill Fire Department broke cleanly at its base, injuring three firemen, none seriously, while a fourth leaped clear of danger.

To enable firemen to fight the fire, called slight by the department, the aerial was set in to the building at an angle of slightly less than 45 degrees. One fireman was atop the ladder wetting down the roof when it broke. The impact pitched him off the ladder on to the roof where he laid still in the snow to prevent sliding off until fellow firemen rescued him. Thanks to the snow he suffered only minor bruises.

HARRINGTON PR - 10
FIRE ALARM - - TAPE REGISTER



FOR USE WHERE ACCURATE RECORDS ARE OF MAJOR IMPORTANCE — in central fire alarm stations, outlying fire stations, police department offices, water works, etc., where necessary to automatically make records of fire alarms or other emergency signals as transmitted over such circuits.

Write for descriptive circular now.

HARRINGTON SIGNAL COMPANY
MOLINE - - - - ILLINOIS

WENTWORTH FIREMAN'S UNIFORM CAPS
Union Made Prompt Delivery

No. 342

Wentworth Fireman Caps are made of the Highest Quality Standard Materials available and by the Best Skilled Union Craftsmen in all the New and Standard styles. Our 50 years of experience and skilled workmen guarantee you AMERICA'S GREATEST CAP VALUE in all WENTWORTH FIREMAN CAPS.

No. 441

Write direct for latest circular and prices or see your local dealer.

WENTWORTH-FORMAN CO., INC.
21-23 Edinboro St., Boston 11, Mass.
Manufacturers
Fireman Cap Specialists for Over 50 Years

A member of Columbia Engine Company was half way up the ladder and was thrown between it and the edge of an overhang, on to which he landed in a straddling position. He was brought down and removed to the hospital in the city's Fire Patrol where his injuries were found not serious. A third fireman was just starting up the ladder when it snapped and the impact, and his own balance, threw him through the air, clear of the apparatus and into the soft snow. He, also, fortunately was not injured.

The fourth fireman, on the turntable at the moment of break, received the brunt of the impact when the broken beam caused the table to slap back, striking him in the shoulder. He is under the care of a doctor following hospitalization.

Dry rot and age were the causes of the break listed by Peekskill fire officials. The break came at the base of the bed ladder, where it meets the flat turntable. It is reported that the wood was of a powdery nature at the break point, which occurred where two bolts connected the braces reinforcing the butt of the ladder.

The breaking of this ladder did not come as a surprise to Chief Engineer D. E. Cleveland. Chief Cleveland foresaw two years ago the possibility of just such an accident, and in his annual report to the Mayor and Common Council, in 1944 pointed out that the ladder was unsafe and had then, seen over 28 years of service. Said he:

"The future life of this machine is an unknown quantity; it may last for another ten years, and it may not last the new year out. We all know that it has passed the time limit of service relative to a reasonable safety factor. The aerial ladder is part of the original equipment, and it is now showing some very wide fissures in the beams. Rungs require tightening every so often, and it is doubtful as to how much strain and stress the aerial will be able to stand. . . . As soon as possible the City Council should take steps to replace this apparatus in the interest of safety to the firemen and efficient fire protection."

According to correspondent George E. Nelson, Peekskill Fire Patrol, while the fire department awaits the new, modern aerial, Peekskill depends upon Westchester County's Fire Chief's Emergency Plan and its central control mutual aid system for coverage.

Taxpayer Fires Present Problems to Nation's Fire Service

(*Continued from page* 105)

be done, secure the installation of sprinkler systems, at least for the basement.

5. Deadlights or floor openings, covered by opaque glass or material that can be knocked out to enable cellar pipes and distributors to be used, are advantageous where large areas are involved (these are installed in many New England communities).

6. Drill store employees in the use of first-aid fire-fighting extinguishers, and how to transmit alarms.

7. Discourage promiscuous smoking; in large stores NO SMOKING rules should be enforced.

8. Make quick, thorough "size up," with particular attention to concealed spaces, hanging ceilings, partitions and basement areas.

9. Play safe: call additional help if

Barton Front Mounted

AMERICAN-MARSH PUMPS

Barton-American Midship

★

MAY 1946 BRING
EVERY COMMUNITY
A LOWER FIRE LOSS

★

AMERICAN-MARSH PUMPS, INC.
Battle Creek, Michigan, U. S. A.
The Original Manufacturers of Front Mounted Fire Pumps

"ALL-OUT" DRY CHEMICAL* FIRE EXTINGUISHER

PROTECTS LIFE..CAPITAL INVESTMENT..EARNING FACILITIES

Foremost for Fires of Flammable Liquid and Electrical Origin.

"ALL-OUT" — engineered to cope with stubborn, dangerous "Fire Incidents" against which ordinary methods prove ineffective.

★ LIGHT WEIGHT — Easy to operate.
★ PROTECTS OPERATOR from radiant heat.
★ NON-CONDUCTOR of electricity.
★ NON-ABRASIVE — Harmless to equipment.

For Industrial Plants - Aviation - Mining - Construction - Automotive Fleets - Public Utilities - Firms & Home.

*APPROVED Underwriters' Laboratories Factory Mutual Laboratories

TERRITORIES AVAILABLE FOR REPRESENTATION

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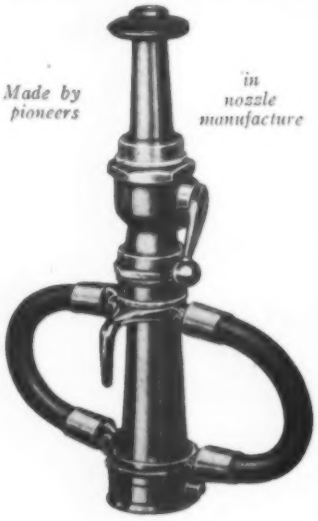
"ALL-OUT" FIRE EXTINGUISHER DIV.
PRESSURELUBE · INC
609 WEST 134th STREET • NEW YORK 31, N. Y.

"All American Choice"

Made by pioneers in nozzle manufacture



INVINCIBLE
NOZZLES

F. N. McINTIRE BRASS WORKS
Successors to A. J. Morse & Son, Inc.
BOSTON, MASS.
1837 — 1945

there is the slightest chance that you won't be able to confine the fire.

10. Taxpayers may, and often do, connect to adjoining stores and/or apartments. Survey these exposures to be certain fire has not communicated to these adjoining structures.

11. In street level ventilating particularly, watch for backdrafts in opening up. Play safe; don't expose men.

12. Large streams and deck pipes may be necessary, even in "taxpayer fires."

13. Train your men in opening roofs and cornices; also in "pulling" ceilings, plaster and metal,—and working in tandem.

14. Map out with all your officers, the fire fighting strategy you would, or might, follow in combating cellar, and roof-structure fires (make it part of your drills). Secure floor and construction blueprints of the more important "taxpayers," familiarize yourself with construction details.

Melamine Exonerated in Tests

(Continued from page 107)

result in terms of living. In a fire, materials many burn to carbon dioxide and water, if there is an ample excess of air. With less air, partial combustion takes place and carbon monoxide is produced.

"If the material which is burning is nitrogenous, that is, a chemical compound containing nitrogen as one of the elements in it, it may burn completely to give elementary nitrogen or compounds of nitrogen, but almost never to give oxides of nitrogen; or it may decompose to a lesser extent and some of the nitrogen be present as hydrogen cyanide."

Citing melamine resin as an old substance being widely applied in new uses, Dr. Snell asserted that this substance is no more dangerous in the home than wood or paper.

In addition to melamine plastic resin, he named milk solids, steak, leather and wool as examples of nitrogenous material encountered in fires.

"The facts about cyanide," Dr. Snell said, "are that if you try to poison an animal with it, you have to use a tremendous amount. To kill rats and roaches it is customary to use about 1000 parts per million. In a fire where there is sufficient air to support combustion, the cyanide, will be diluted to an extent that it is not lethal to man, and the same air currents that carry away the smoke of the fire will disperse the gases."

Defending new solvents, Dr. Snell said they are not highly toxic. "The ones you have to be careful of are the old ones with familiar names like nitrobenzine, naptha and gasoline. They will burn and will explode if they are mixed with the proper proportion of air."

Carbon monoxide, Dr. Snell pointed out, is the most common dangerous gas firemen will encounter. Its danger comes from the fact that it is odorless. None of the other toxic gases is dangerous that way. Ammonia, chlorine, formaldehyde, cyanide and muriatic acid all have odors which warn of their presence. Cyanide gas has an odor resembling peach pits, said the scientist.

Assuring firemen that cyanide gas is nothing new to them, Dr. Snell said, "Any time a nitrogenous material is

Designed for Fire Department Service. 25% reserve or better. Magnesium and Chrome Nickel Casting. 4 cycle, Automatic Voltage Regulator, Dependable, Economical, Compact design, Lightweight, and sturdy construction.

From 600 to 10,000 Watt A.C. & D.C. Generator. Projectors and cords.

Write for literature.

SECURITY FIRE EQUIPMENT CO.
1550 Princeton Ave. Trenton, N. J.

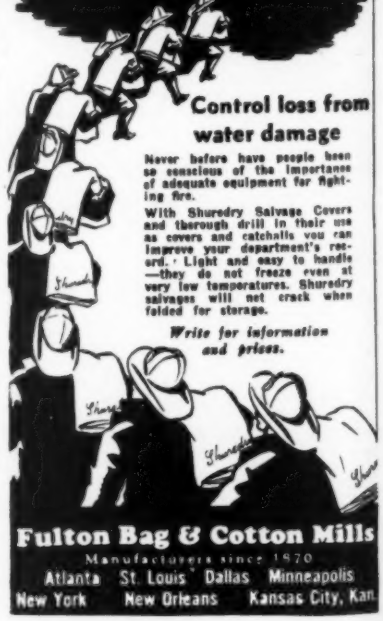
JANESVILLE QUALITY
TURN OUT CLOTHING

Our turnout suits are giving excellent satisfaction in most of the large fire departments throughout the U. S. and THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON JANESVILLE QUALITY

NOW AVAILABLE!
We can now supply old type ¾ Felt-lined Firemen's Boots.

JANESVILLE APPAREL CO.
JANESVILLE, WIS.

USE Shuredry SALVAGE COVERS



Control loss from water damage

Never before have people been so conscious of the importance of adequate equipment for fighting fire.

With Shuredry Salvage Covers and thorough drill in their use as covers and catchalls you can improve your department's record. Light and easy to handle—they do not freeze even at very low temperatures. Shuredry salvages will not crack when folded for storage.

Write for information and prices.

Fulton Bag & Cotton Mills
Manufacturers since 1870
Atlanta St. Louis Dallas Minneapolis
New York New Orleans Kansas City, Kan.

burning without a substantial excess of air, there is cyanide gas present. A fire which involves the burning of cheese and milk products and anything which has combined nitrogen in it produces cyanide gas. There is a detectable amount of cyanide gas given off when you broil a beefsteak because the beefsteak is a nitrogenous compound and it is heated to a temperature at which the nice black part on the surface which we like so well is due to decomposition.

Because, he said, fire prevention and fire-fighting persons are particularly frightened of cyanide, Dr. Snell assured his audience that there are quite a number of materials which, on the basis of U. S. Public Health Service standards, are more dangerous than cyanide.

"The three most dangerous gases," he said, "are arsine, chlorine, and ozone, of which fortunately only chlorine can exist in the presence of fire. Chlorine is its own indicator and is so unpleasant that if a person can move, he will get away from it before it can be dangerous."

Following the demonstrations, Dr. Snell answered questions on the comparative amounts of cyanide gas in burning plastics and such materials as wool, paper and food products. In reply to a question by Chief Daniel Tierney, Arlington, Mass., he said that cyanide gas is extremely soluble in water and it is "miscible" with water, therefore in a case where there was cyanide gas in the air, or in the smoke, any spraying of water into that smoke or any use of the fire hose would reduce the cyanide concentration.

Dr. Snell further made the point that if firemen have ventilation which will carry away the smoke, it will carry away the toxic gases. "Everything considered," he concluded, by far the most dangerous factor in smoke is carbon monoxide."

1945 Fire Losses Set Record

Fire losses in the United States during 1945 amounted to $455,329,000, the highest in this country since 1930, according to estimates of the National Board of Fire Underwriters.

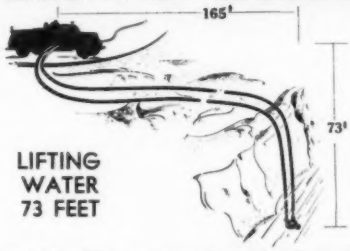
The 1945 losses were 7½ per cent higher than those for 1944 and were the highest for any year since the total of $463,613,000 recorded fifteen years ago.

The 1945 losses included a new record total for December losses of $49,478,000, which were 2 per cent higher than losses of $48,694,000 reported in December, 1944, and 32 per cent above losses of $37,393,000 in November, 1945. The December total is the highest for any month since the start of compiling the Board's monthly tabulations.

A comparative table of estimated losses in each of the past two years follows:

Month	Estimated Losses for 1945	Estimated Losses for 1944
January	$44,865,000	$38,572,000
February	41,457,000	38,280,000
March	40,876,000	39,084,000
April	37,950,000	34,746,000
May	34,153,000	32,815,000
June	34,090,000	30,555,000
July	34,054,000	32,706,000
August	34,096,000	30,618,000
September ...	32,447,000	31,448,000
October	34,470,000	32,172,000
November ...	37,393,000	33,847,000
December	49,478,000	48,694,000
Totals $455,329,000		$423,538,000

LIFTS WATER 100 FEET



LIFTING WATER 73 FEET

CHAMPION

HI-LIFT SUCTION BOOSTER $165

The illustration at left shows the new Champion Hi-Lift Suction Booster in action! The pumper, because of rough, impassable terrain can't approach closer than 165 feet to the river bank. The water level in the river is 73 feet below the pump. Without the Hi-Lift Suction Booster this pumper could not get a drop of water from the river.

But — using the Hi-Lift Booster this pumper can deliver 208 gallons of water per minute in a powerful, high pressure fire fighting stream.

Will lift water at suction vertically in excess of 100 feet and horizontally from a distance of hundreds of feet.

Maximum efficiency and performance with any make and type of pump and using 2½" fire hose.

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W. S. DARLEY & CO.

ESTABLISHED 1908 CHICAGO 12, ILL.

EASTMAN

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CHECK YOUR 1946 REQUIREMENTS AGAINST THIS LIST √

ADAPTOR FITTINGS
CONNECTIONS
SUCTION STRAINERS
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HOLDERS
RUNNING BOARD
FLANGES
SIAMESE
DELUGE GUNS
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Standard Since 1824

Nothing takes the place of Experience

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CONCORD - - - N. H.

CIRCUL-AIR

FIRE HOSE DRYER

- Is easier to use
- Saves drying time
- Reduces hose stretch
- Prevents mildew and rot
- Improves building design
- Air-conditions as it dries

THE CIRCUL-AIR CORPORATION
6329 East Palmer Avenue
DETROIT 11, MICHIGAN

REQUIRED REPAIRS

AFTER
9 YEARS OF
USE

1 LEATHER PACKING!

ELKHART Mystery Nozzle No. 556 was sold in 1936 to Chief Charles Bridges of the Kent Fire Department, Kent, Washington. But let Chief Bridges tell the story:

Chief Bridges Says: "It's a pleasure to recommend such a good product."

"I keep that nozzle on the first line that comes off our rural truck, and have since 1936; this truck rolls for all large city fires, too, so that nozzle is always in use," he writes. "I am pleased to learn that that was all the repairs it needed—and I have missed it very much since you have had it..."

The repairs required, after 9 years' use, consisted of one new leather packing!

Today, the Improved Elkhart Mystery Nozzle is even better than the original Mystery Nozzles that are giving such amazing service everywhere they are used.

ELKHART BRASS MFG. CO. Inc.
ELKHART, INDIANA

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FEBRUARY, 1946

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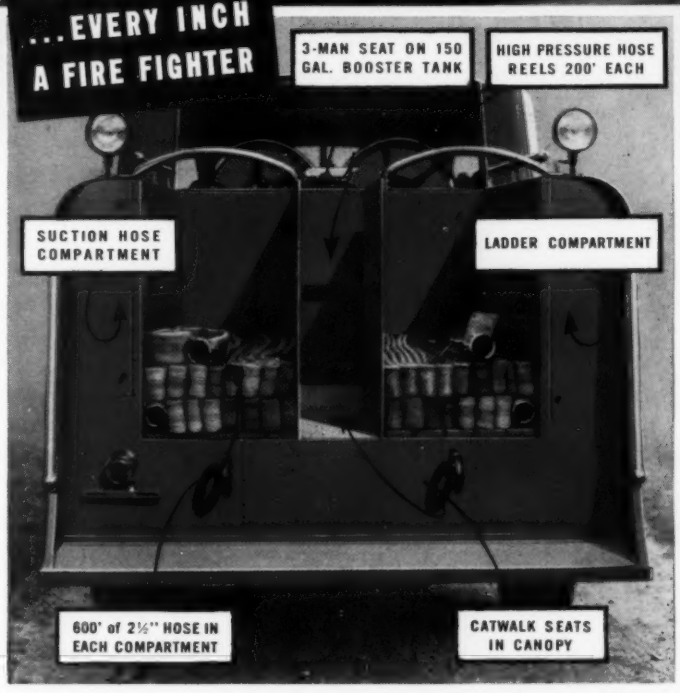
150 hp ENGINE . . . WITH DUAL IGNITION, DUAL CARBURETORS, AND DUAL FAN BELTS
ROOM FOR SIX MEN
CANOPY TOP . . . AND OPEN IN BACK FOR QUICK EXIT TO REAR WHERE HOSE IS CARRIED
ALL CONNECTIONS AND CONTROLS ENCLOSED—TO PROTECT THEM AGAINST FREEZING, SNOW and ICE
NO RUNNING BOARD ELIMINATES MEN STANDING ON SIDES —A SAFETY FEATURE
FORE AND AFT . . . EVERY INCH A FIRE FIGHTER


3-MAN SEAT ON 150 GAL. BOOSTER TANK
HIGH PRESSURE HOSE REELS 200' EACH
SUCTION HOSE COMPARTMENT
LADDER COMPARTMENT
600' of 2½" HOSE IN EACH COMPARTMENT
CATWALK SEATS IN CANOPY

FWD ENGINEERED . . TO GIVE YOU MORE AND BETTER FIRE-FIGHTING FEATURES

An FWD Engineered fire truck is every inch a fire-fighter! It is equipped with dependable four-wheel-drive power that gets the apparatus to the scene quickly and safely. It is built to function with the greatest fire-fighting efficiency—every piece of equipment and every control instrument conveniently located and quickly accessible. Fire chiefs and commissioners are invited to discuss the needs of their departments and communities with FWD fire truck engineers—to gain the benefit of the broad experience these engineers have gained in more than 30 years of building fire fighting apparatus.

THE FOUR WHEEL DRIVE AUTO CO.

CLINTONVILLE, WISCONSIN

Canadian Factory: KITCHENER, ONTARIO

FWD

FOUR-WHEEL-DRIVE *Fire Apparatus*

GETS TO FIRES FASTER AND SAFER!

The New Series 4NAP FOGNOZL*

. . . Now SELECTIVE High Velocity FOG COMBINED with the famous

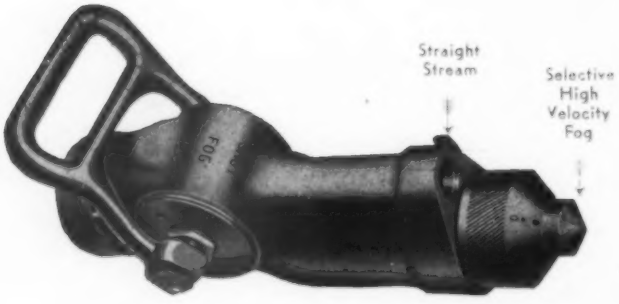
ALL-PURPOSE FOGNOZL*

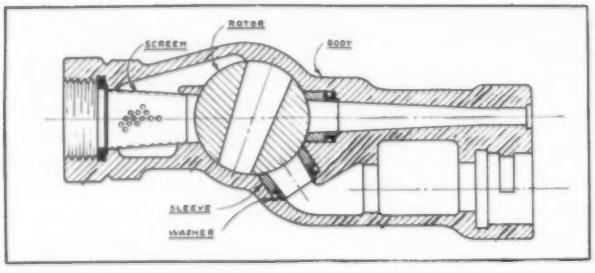
Finally, after many years of research we have perfected a FOGNOZL* — the new Series 4NAP — which possesses these outstanding features:

GRISWOLD ORIGINAL

All Purpose

FOGNOZL*





Write for Further Information

1. Adjustable tip for varying quantity of Fog (water delivery).
2. Fog volume easily adjusted under full working pressures.
3. Production of true fog of uniform size of water particles at all adjustments.
4. Solid, homogeneous mass of fog produced at all adjustments.
5. High velocity fog tip is removable allowing instant insertion of Fognozl* Extension Applicator.
6. Highly efficient Fognozl*-designed straight stream included.
7. Shut-off, fog and straight stream are instantly available by means of the famous Fognozl* pressure seal rotary valve operated by one valve handle. It is important that you do not have to go through the straight stream to get the fog.

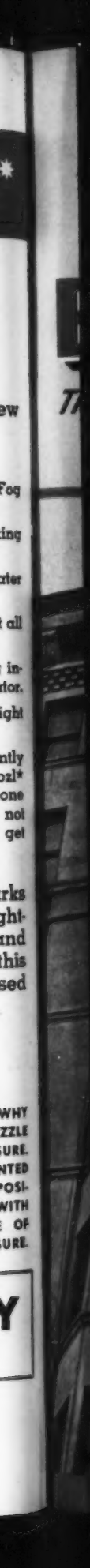
This new Series 4NAP Fognozl* marks such a radical improvement in fire fighting efficiency, personnel protection and conservation of water that we offer this new line of equipment with "pride based upon performance."

●

WATER PRESSURE

—THE CUT OF OUR NEW ROTOR VALVE SHOWS WHY IT IS POSSIBLE TO ADJUST THE NEW 4NAP NOZZLE WITH FINGER CONTROL, REGARDLESS OF PRESSURE. THE BUSHINGS WHICH SEAL SHUTOFF ARE MOUNTED ON NEOPRENE WASHERS WHICH GUARANTEES POSITIVE ACTION OF BUSHINGS ON FACE OF ROTOR WITH MINIMUM OF FRICTION SURFACE — THE FACE OF BUSHING ONLY ACTS AGAINST WATER PRESSURE.

FOG NOZZLE COMPANY

1520 EAST SLAUSON AVENUE, LOS ANGELES 11, CAL.

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